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VOL. I.—42ND YEAR

SYDNEY, SATURDAY, APRIL 16, 1955

No. 16

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The Rontgen Oration.¹

ON LOOKING BENEATH THE SURFACE OF THINGS.

By J. R. DARLING, M.A. (Oxon. and Melbourne),
D.C.L. (Hon.) (Oxon.),
Headmaster, Geelong Grammar School, Geelong,
Victoria.

I CAN only start by saying that I am quite overwhelmed by the honour you have done me in inviting one so ill equipped to deliver this oration. The only roughly similar occasion in which I have felt almost equally out of place was when I was invited to open an agricultural show. Had I known when I accepted the position of headmaster that occasions such as these were concealed in the future, I might, I think, have been even more hesitant than I was about promotion. Having been asked, however, and having accepted, I can only promise to do my best, and hope that you will not expect too much of one as unaccustomed as I am to the dignity of public orations.

The peculiar difficulty of making an oration on such an occasion and to such an audience is that, being particularly ignorant upon the subjects which to all of you are as clear as the alphabet, one is forced by this into the

difficulty of finding any subject at all upon which to address you. I must apologize therefore for the banality of the title which has been chosen, not so much because it was a pun upon your profession, but because in its vagueness it will cover a multitude of sins. Worse still, as I directed my thoughts upon these lines, I have found that I have in fact got something which I very much want to say, but which, owing to defects in my mental capacity, in my education and in my subsequent reading, I am quite incapable of saying adequately. If, in the end, I can leave you with a question to be answered, but have put it with sufficient cogency to make you want to answer it, I shall have achieved more than at this stage I think probable.

Professor W. K. Röntgen, in whose honour this oration is named, must be one of the greatest benefactors of mankind as well as one of the greatest scientific originators in history. That he was a scientist and a German, and that he made his great discovery as late as the end of the nineteenth century is well known to you all, as is also the fact that he realized almost immediately after he made the discovery some of the possibilities that were contained in it. You know also that this important discovery created an almost immediate public interest. There followed all the misinterpretation and exaggeration which such publicity throws in the face of the scientist whose only desire is to pursue uninterrupted the new developments made possible by his discovery. It has long been a question whether the existence of a free Press is compatible with democratic institutions, and sometimes one is tempted to ask whether the existence of the daily Press is compatible

¹ Delivered at the annual meeting of The College of Radiologists of Australasia, Melbourne, November, 1954.

with any thinking at all. Certainly poor Professor Röntgen suffered from the superficiality and futility of the comments made upon his work, and needed all the acclamation of his fellow scientists to compensate for his undesired popular reputation. It is, I suppose, almost impossible for the Press to accept the fact that some people prefer to make their own statements to their own chosen audience in their own way.

From these beginnings, however, came the science which most of you practise and which has served so well the cause of medicine. But the common misinterpretations of what Professor Röntgen's rays could do in looking below the surface of our outward appearance may present to us the opportunity not only for some moralizing upon the use that man makes of the advances of human knowledge, but also for trying to understand what is indeed thus gained in looking beneath the surface. I shall, at least in this audience, arouse no opposition when I point out that what matters is not the fact of being able to see what is otherwise hidden, but on the contrary, what there is to be seen, how what is seen is interpreted, and thirdly, what can be done about it when it has been seen. There is also perhaps the problem, even in your walk of life, arising from two other factors: how far, even with the most modern equipment, you really do see beneath the surface or, to put it another way, what various surfaces there are on which the eye can rest before one sees right through and sees anything; and secondly, whether what one sees by this kind of penetration is really penetration of the truth or merely penetration of a phenomenon which is only part of the truth. I could, I suppose, put these questions in a more concrete form and make them more understandable; but, in doing so, I should risk trespassing in a field altogether outside my ken, when all that I am intending to do is to make an introduction to a problem far less specialized. The doctor today has within his control a weapon, your weapon, which shows him much more of the truth than his predecessors of 100 years ago could hope to know; but it is still only an observed truth which your rays reveal, and the additional evidence which is available to him in his diagnosis and is a preliminary to his cure, while it is obviously of great assistance to him, still depends upon a capacity for interpretation which may even be made more difficult by the extent of the knowledge acquired, and in some cases may even make correct diagnosis more difficult. Moreover, such concentration of the mind on the things that are seen and temporal may divert him from those other possibly more important factors of the diagnosis which have to be apprehended rather than seen. An American professor the other day, in a discussion with me, made a most apposite remark: "Those", he said, "may be the facts, but they are not the truth"—for Truth with a capital T cannot be put in a bottle as a specimen; yet it is that kind of inquiry which is the need not less of the medical profession than of other ordinary people today. This truth is something which we both observe and apprehend, and observation without apprehension is valueless, perhaps more dangerous even than apprehension without observation.

When we contemplate our world, whether it be the world of contemporary thought, the world of art, the world of medicine, the world of education, the world of politics or the world of social studies which the University of Cambridge calls so delightfully "The Ecology of Human Beings", we must all be struck by the need for such penetration of understanding. Of course we all practise assiduously some kind of profession or occupation; but there are moments, I imagine, when all of us who are thus actively engaged desire passionately time, time in which to reexamine the purpose and the meaning of what we are doing. As some woman said to me once about life, "If it would only stop for six months to enable us to catch up with it"—to enable us, she meant, I think, to try to understand it, to take bearings anew, to estimate with some accuracy where we are and to set a course in the direction in which we want to go. Would you think me very rude if I suggested that perhaps the medical profession is as much in need of such a period of repose as any other, including my own? If such a need exists, as I am sure

that it does, though there seems no possibility for the majority of us that the need will ever be satisfied, a second fact becomes apparent—that we are most of us extraordinarily badly equipped to seize the opportunity even if it was presented. In those times of history in which life gave men an opportunity to think and to contemplate, the capacity for thinking and contemplating was developed; and as such thinking was the regular exercise of educated men, education was directed to develop in them a capacity for this kind of thinking. In our hurried age there is a danger that by lack of use the capacity will atrophy, and it is possibly this atrophy of even the desire to think deeply about anything which is the worst characteristic of the whole affair. Faced as he is by the impossibility of approaching a full understanding of even a small branch of human knowledge, it is not surprising that the student of today has allowed himself so to specialize that he forgets the need for understanding the relationships between things, let alone their ultimate meaning. If the student falls into such error, what can be expected of the ordinary man? If the world is too difficult for the scholar to understand, it is by so much the more incomprehensible to the rest of us. Vaguely disquieted by a lack of perceptible purpose in life and convinced that he can make no sense of it even if he tries, modern man chooses the method of escape by preoccupation with all kinds of frivolous interests. Even more or less intelligent people like you and me prefer the relaxation of golf and bridge and detective novels to the satisfaction which at one time we would have sought in conversation, serious reading or religious exercises, and that kind of frivolous preoccupation, inoffensive and not essentially vicious, continues the process of desensitizing our minds, just when the needs of the moment demand more than they ever have done the most acute sensitivity. Sensibility, which, we are told, the course of evolution demonstrates as the true equivalent of life, should always be the educator's objective; or again, as the same author, Canon Raven, says, the future lies not with the predatory and the immune, but with the sensitive who live dangerously. It should be the prime object of education, whether at the level in which I am engaged or in the specialized advanced education with which the medical faculty is concerned, to develop this sensitivity. I need not surely elaborate the great importance of this in clinical teaching, nor the obvious fact that there are two kinds of insensitivity, the pachydermatous and the frivolous. The sensitive mind is neither; not, that is to say, like the rhinoceros, which is so hidebound by prejudice or conviction that it cannot be penetrated by any new idea; nor yet on the other hand so occupied by surface agitation that he "heareth the word, and anon with joy receiveth it"—and when the sun is up, it is scorched, and because it has no root it withers away. Of the two, perhaps the second is more common and more dangerous. But the truly sensitive mind is both susceptible and penetrating: it is open to new ideas and it seeks truth at the bottom of the well. It is the development of this sort of mind which it should be the object of the educational process to cultivate. I doubt whether we are being very successful.

While I do not want to involve you in the technical details of school time-tables and curricula, some reference to them is necessary in order to explain why even with the best intentions in the world a headmaster finds it so difficult to do what he knows to be right. A school timetable is an operation in various dimensions, and the making of one may be compared not so much to a jigsaw puzzle as to a rather complex game of patience. There are a fixed number of periods in the week, a certain number of boys who must be divided for reasons of economy into a reasonable number of forms. The number and capacity of masters are also limited, and they cannot any of them be in two places at the same time. On the opposite side the subjects which one would like to teach—indeed, without which education must be incomplete—are multifarious, if not infinite, and the peculiar vocational desires of the pupils equally so. To add to the difficulty, a well-meaning if misguided university and other examining bodies, impressed by experience with a grave distrust

or the second extra even if such life developed; educated capacity is a characteristic of the ranch student that he ships off to the scholars' asible no the s of people ridge time g or upa the needs the t of pain, lies the lime am with his port act hy is so be nd, r, up, y. re ple ks of the

of schools and schoolmasters, and obsessed with the desire to teach only students of a much higher general standard than can in fact be produced from the available field, endeavour to assure by the unsuitable weapon of the examination that at least the students have been taught in the way which they—if, that is, they can ever achieve enough agreement amongst themselves to be called “they”—think right. To this challenge the schoolmaster and his pupils respond by the use of every possible device to elude the vigilance and deceive the intelligence of the examiner and so trick him into passing the candidate. This first hurdle surmounted, the student proceeds to the next by the same methods. But education is not a series of hurdles, and the tendency to regard it as such forbids any chance of efficacy, except by chance as a side-line, in achieving the main objective, which we have postulated as the training of the sensitive and penetrating mind. For this can be achieved only in freedom and as a result of much more leisure in the classroom than the present necessary syllabus can possibly allow; and of course it demands teachers themselves possessed of the intellectual quality which they wish to develop in their pupils. Its success in the main depends not so much upon the subjects taught as upon the way in which it is possible to teach them; but, broadly speaking, I am prepared to argue that it does involve the preserving for as long as possible of a reasonable balance between the mathematical and the humane subjects, and I even believe, in defiance of educational experts, that the learning of some foreign language is necessary if a man is to learn how to think in words, as most of us need to do.

It is a serious fact that to a large extent the learning of languages is rapidly being extinguished in this State for those who are proceeding to any of the scientific, medical, engineering and architectural courses. The solution, I hasten to add, is not to make a language again compulsory for matriculation, but so to free the candidates from excessive demands elsewhere that the school has some opportunity of fitting in the teaching of those subjects which it believes a necessary part of a liberal education. We are wrestling, at the moment anyhow, with a system which does in fact drive mathematical and scientific specialization right down into the middle school, and which has the quite unintended result also of encouraging boys to try to escape from all subjects which demand theoretical thinking. The young naturally prefer the concrete and the practical, and perhaps the Australian young even more than their counterparts in England. They prefer examples to principles and facts to ideas; they prefer learning to thinking. It is the duty of any self-respecting school somehow to wean them into the more adult appreciation of the opposite attitude. For in all education principles are more important than examples, ideas than facts, and you cannot train the sensitive and penetrating mind except by exercising it in that direction.

In the processes of education, then, there is scope for considerable reform, and in spite of our many failings we do try to combat the worst effects of the present situation. We cannot, however, go very far, for much of the trouble is inherent in the present stage of the world's knowledge. A multiplicity of new facts in every field has tended to obscure all sight of principle, and the advance of knowledge upon all its frontiers has almost made excessive specialization imperative. This is true not only in learning, but even in such trivialities as sport, so that in almost every human activity the necessary concentration upon the development of even the twigs upon the branches has resulted in our losing sight of the tree, let alone the wood of which the tree is part. If one wants to take part in everything, one is tempted to believe that unless one is a Sedgman or a Landy it is not worth doing so at all; and if one is, one is tempted to forget everything else or at least to get everything out of perspective. If it is part of the art of living to see life clearly and to see it whole, this age of specialization makes living a very difficult art. I am tempted to suggest that this is so in your profession even more than it is in mine, where it takes the form chiefly of competition between specialist masters for the undivided attention of pupils without a proper regard for the balance which should be preserved.

It is, of course, no new problem, though it seems today to be becoming more and more acute. Ever since man first began to study natural phenomena he has been obsessed by the difficulty of making general sense of all the individual discoveries which he made. Like a fond landscape gardener who loves too well each individual tree and shrub, he seeks in vain for the pattern which he planned.

It was the ancient Greek philosophers who were first obsessed by this perplexity. They sought, and men since have sought continuously, for some single binding principle from which it might be said that all else sprung—Heracitus found it in fire, Pythagoras in the science of numbers, Socrates in reason, and Plato, coming near to monotheism, while he remained nominally a worshipper of the ancient gods, in the idea of the Good and the Beautiful.

It may have been more difficult for them or less difficult, but at least they kept on trying, for their minds could not rest unless they did. But in those days science was in its infancy and the content of human knowledge could be held within the boundaries of one head. That is no longer so, and it is hard for specialists in different branches even to understand the language spoken by each other, far less the modes of their thought.

The difficulty is accentuated by the modern, or rather the recent, divorce between theological and scientific thinking. I qualify modern in order to draw attention to the inescapable fact that societies must, as far as I can see, be dominated by those who are already out of date. This is not unrelieved tragedy, as will be readily recognized by anyone who has contemplated seriously the unrestrained ideology of Robespierre or Lenin at work, but it is in some respects unfortunate. There can be very few headmasters who are not regarded by their best young masters as unenlightened and reactionary; and so we are, as we think, for excellent reasons which the young cannot be expected to understand. Perhaps you in your profession accept with better grace the wisdom of your elders. It is in some respects a pity if you do, for we can with only the greatest difficulty, and with the gift of free time for reading and thought which it is very hard to seize, escape from the modes of thought which we adopted when our minds were “young and gay”. Lord Raglan, you will remember, having fought the French when he was young, still persisted forty years later in calling all enemies Frenchies, even when in the Crimean War the French were in fact his allies. But of course we do have wisdom of a sort, the wisdom of experience, the wisdom of a greater tolerance, and perhaps of a wider vision, as well as the wisdom which can come just from the fact of being nearer death, something different from being merely further from birth. There should be—I speak with feeling—some system of payment devised for the older amongst us, which would take us out of active responsibility and daily strain, and yet, having given us the leisure to think while we still want to, give us also some opportunities of influence. They do it in the best businesses, where there seems to be money to spare for all, but it is not so easy in the professions.

But that is a digression. My real point is that many of us grew up and tasted the Pierian fount at a time when the divorce between religion and science was an accepted fact. There were scientists who remained religious, and even theologians who dabbled in science, but there was still the kind of mental strain which disturbed the soul of Darwin or Huxley. The two intellectual activities had to be kept in separate compartments: a man who was accustomed in his scientific studies to apply certain rules and principles was convinced that he had to throw them away when he approached the study of theology, the truths of which he was told that he could accept only by faith. In the results, at least the lower ranks of thinkers divided themselves into two classes, those who, like myself, found science almost an excrescence, a technical achievement perhaps for those whose minds were made that way, but something which had little bearing upon the real life of the mind, and those who, like, I imagine, a good many of you, threw away religion, because it would not fit in with

the truths which you discovered by the scientific method. In this fabric or mental habit, formed when we were at the university, most of us remain, and fail to notice that the world of thought has left us behind.

Quite obviously it is a most unsatisfactory condition, creating as it does on the one hand a division between two kinds of thinker and on the other a dichotomy in our own minds, which is either disquieting if we are conscious of it, or damnable if we are not. Add this dichotomy to the problems created by the multiplicity of specialization, and it will be seen how difficult it is for modern man to see life clearly and to see it whole.

But the Greeks must be right. The scientist can no more deny or devalue the truths of spiritual experience than the theologian can neglect the truths of science; and the two truths must be reconcilable, and it must be of importance to each of us that they should be reconciled. Fortunately there lies between the two extremes and stretches over the gulf of division a bridge—or would you prefer to call it a rainbow (for a rainbow combines in it something of both worlds)?—the bridge of the arts, music, painting, poetry, those strange emanations of the evolutionary process.

In two admirable essays published in a book entitled "Unpopular Opinions", Miss Dorothy Sayers endeavours to explain the function of the artist of any kind in society. "A poet", she writes, "is a man who not only suffers the impact of external events, but experiences them"; and later she adds: "The recognition of the truth that we get in the artist's work comes to us as a revelation of new truth . . . It is new, startling, and perhaps shattering—and yet it comes to us with a sense of familiarity. We did not know it before, but the moment the poet has shown it to us we know that, somehow or other, we had always known it." For truth is there to be revealed, as all scientists know; and the seeing of the truth is a discovery, not an invention. It may well be that it is on the common meeting ground of art and music and poetry that scientist and theologian may meet to compose their differences.

Certainly it was a poet with a scientific—at least a medical—training, Robert Bridges, who first, as far as I know, and as long ago as 1927 and at the end of his long life, tried to produce order out of chaos and to compose in the "Testament of Beauty" both the problem of multiplicity and the problem of dichotomy. They are in fact the same problem, for once the dichotomy is composed the multiple forms will fall into order around the central idea. I do not know how much impressed the scientists were with this work, but I do know that one theologian at least of high standing, the late Archbishop Temple, to whom the book was submitted in proof, hailed it as one of the greatest works in the English language. I wish that I had left myself some time to use this great poem at length. As it is, I can only quote away from its context a short extract which with the magnificent climax seems to me to sum up the main argument.

Man is portrayed in the picture of Plato's two-horsed chariot, the chariooteer Reason driving the two components of man's character, the instincts of Selfhood and Breed, or Sex; and the science of conduct, which he calls Ethick, deals with "the skill and manage" of the chariooteer. He goes on:

Since all Ethick implyeth a sense of Duty in man,
'tis first to enquire whence that responsible OUGHT arose
a call so universal and plain-spoken that some
have abstracted a special faculty, distinct
from animal bias and underivable,
whereby the creature kenneth the creator's Will

that we call Law of Nature,—in its grade the same
with the determin'd habit of electrons, the
same with the determining instinct of unreasoning life,
NECESSITY become conscient in man—whereto
all insubordination is imperfection in kind.

Reality appeareth in forms to man's thought
as several links interdependent of a chain
that circling returneth upon itself, as doth
the coil'd snake that in art figureth eternity.

From Universal Mind the first-born atoms draw their function, whose rich chemistry the plants transmute to make organic life, whereon animals feed to fashion sight and sense and give service to man, who sprung from them is conscient in his last degree of ministry unto God, the Universal Mind, whither all effect returneth whence it first began.

The Ring in its repose is Unity and Being: Causation and Existence are the motion thereof. Thru'out all runneth Duty, and the conscience of it is that creative faculty of animal mind that, wakening to self-consciousness of all Essences, closeth the full circle, where the spirit of man escaping from the bondage of physical law re-entereth eternity by the vision of God.

This is the idea of purpose in life and I am suggesting that it is to the idea of purpose in all things that we must return, if we are to discover unity in the midst of variety.

I once served under a great headmaster whose conversation with assistant masters, at least those who wanted anything, consisted largely of the monosyllable "Why?". As a response to a conventional "Good morning" it was rather devastating, but as an aid to honesty of thought, invaluable. I suggest that the same policy of inquiry might be profitable in a whole lot of activities which we have come to take for granted, together with all the accretion of the years. In the comparatively small problems, not least those of curriculum and syllabus, whether at school or university level, it is high time that there should be some why's and some answers; only so will there be any chance of the required revision and synthesis. In the wider or deeper field of thought there is no less need.

But before we return to this binding idea of purpose and function and duty in life we should perhaps try to understand why the apparent dichotomy between religion and science has arisen. It has arisen, according to Canon Raven (a theologian and a biologist) in his two series of Gifford lectures, as a result of faults upon both sides.

At a time when three or four hundred years after the life of Christ the Roman Empire was breaking up, or indeed possibly earlier, when the life of the Christian convert was arduous and dangerous, the belief grew up that "the days were evil" and the world was bad, and Christianity therefore an escape. "With the closing in of the dark ages", he writes, "faith became a creed, hope an escapism, and love a snare; to contrast the transient with the supernatural, to flee from the world rather than to convert it, and to order this life so as to secure the bliss of heaven became the object of Christian endeavour."

For hundreds of years this kind of thought dominated religion, in spite of Saint Francis and some mediæval theologians. It received a new lease of life as a result of the influence of Calvin and the Puritans: the idea that salvation lay only in an asceticism which removed men from this world in order to prepare themselves for the next became dominant. To such minds the studies of the scientists and their interest in natural phenomena were *ipso facto* frivolous. Some religious thinkers have not even now escaped from this contradiction of the first chapter of Genesis, where it is written: "And God saw everything that he had made and behold it was very good."

It is little wonder that the scientist, especially the English scientist of the seventeenth and eighteenth centuries, who may also have been politically influenced in the same direction, reacted against this attitude of the Puritan theologian. It is unfortunate perhaps that at the same time scientific thought, partly in consequence, became dominated by the mathematicians and the physicists (a domination preserved almost to the present day), and was further enhanced by the utilitarian philosophers of the late eighteenth and early nineteenth centuries and by the practical needs of the industrial revolution.

This belief, with its consequent enhancement of economic and industrial values at the expense of æsthetic and moral, persisted until, with Charles Darwin, man himself was deposed from the position of controller and graded as part of the machine; and by that time mechanism was so securely established that it took two generations for the absurdity of this final step to be recognized.

It is only today, or very recently, that the physicist has abandoned his dogmatism, and the biologist begun again to study the living creature with its ecology instead of being content with rather barren classification. Meanwhile a grievous damage has been done. The result of these two kinds of thought has been to produce in our world that dichotomy of which I have spoken, and which lies at the root of our difficulty in seeing life clearly and seeing it whole. We shall not bridge that gulf unless both scientist and theologian are prepared to start towards each other from either side. It is of the greatest importance to all our thinking that they should do so. What, then, is the problem?

We have, then, these two factors which make it impossible for us to see the unity in life—the dichotomy existing between the scientist and the theologian and the multiplicity of fragmented specialization. Because of these our life has lost coherence and significance and direction.

Far be it from me, who am neither theologian nor scientist, nor even reader, to say what the answer is: and yet, as a plain man engaged practically every day in a mundane occupation which deals nevertheless with the training of minds and the saving of souls, I should like to be allowed to come back to the possibility that solution lies quite simply in what is known as the teleological conception of evolution.

Is the binding principle the solvent idea, to be found in purpose? Let me take a few very simple examples. When a boy goes wrong, he does so for various superficial reasons; but beneath these reasons usually lies the basic trouble, that he has lost his sense of purpose. Neither success in school work or in games or in the hierarchy of school promotion, nor even the estimation of his parents has value with him, and his sense of responsibility to anything or anyone is lost. Restore that and he will start moving again.

Again, when we criticize contemporary society, it is not its viciousness but its aimlessness which we condemn. The world, the flesh and the devil, or if you like, gambling, women and drink, those boasted adversaries of man in the first years after he throws off the controls of tutelage, meet their strongest opposition not necessarily in high ideals or a good upbringing, but much more in a strong purpose, strong interests, the ambition to do well.

There used to be a chairman of our school council who was accustomed, when discussion became heated, to restore his colleagues to the point by the remark: "Gentlemen, this is, after all, an educational establishment." While there may be some in this audience who view with some doubt the truth of this assertion or regard it as presumptuous, there are many other fields in which such a recall to fundamental purpose might be profitable. Not least, democratic society as a whole. Clearly one of our main problems *vis-à-vis* our Communist opponents is that they have at least on their side a clear and definite purpose, from which they derive a coherence and direction almost wholly lacking in the western world. Consider England before and after Dunkirk and you cannot fail to realize the resolution which such purpose gives. The problem of discovering for our liberal democratic society, with its heritage of *laissez-faire*, a purpose as clear and compelling as Communism is indubitably one of the greatest needs of our time. Only in the light of such a discovered purpose can we lead Australia into an attitude of mind which is prepared for sacrifice and service. Without it there will be the disintegration of conflicting selfishness, the chaos which comes from individual greed and laziness. Unless we can discover such a purpose, it is not too much to say that we shall not hold this country for long.

So it is with everything; but there are two further points allied closely to each other—first, that in seeking for such purpose it will be necessary to seek below the surface, below the apparent and obvious, to the underlying and fundamental. It is an interesting reflection that the busy bee, that model of moral behaviour, imagines itself to be thrifitly and frugally collecting food for its winter store,

and that even the commercial apiarist imagines that he keeps bees in order to steal from them and sell their honey. Actually they are both at fault, for the real purpose of the bee is to fertilize my apple blossom so that the fruit will form. In this simple parable there may be thoughts which do lie too deep for tears. How often, I wonder, are we not all confused in our sense of purpose. It is often the incidental good that matters more than the apparent.

Secondly, the discovery of individual purpose in everything is insufficient unless, having applied the criterion to our varied activities, we attempt to correlate what we have found in one embracing purpose. Only so can we come to a better understanding of life, to answer even the all-important question: "What is man that thou art mindful of him, and the son of man that thou visitest him?" For to exclude that question from the study of evolution is indeed to play Hamlet without the Prince of Denmark. An exclusion surely as futile as to talk theology and to forget evolution? There must be a complete answer; there must be coherence and sense in the universe, and until we find it our thinking is degenerated into disintegration and our existence fragmented into a rubbish heap of shreds and patches, with coherence, significance and growth impossible, our compass bearings lost, and civilization foundering.

In the study of evolution it is the scientist's first duty to deal with the question: "How?" The theologian is more concerned with: "Why?" But you cannot answer either question fully without answering the other as well. The medical man may say that he is concerned only with the healing of men's bodies; but when he says so, he knows that he lies. He is concerned with the restoration of wholeness of life, which is health, and wholeness by definition includes man in all his variety of experience. The priest may say that he is concerned with man's soul, but in fact that soul is something which grows out of man's body. You cannot divide man into parts and then by simple arithmetic add him up to make a whole. So the theologian—and the scientist—when they study the story which the one calls creation and the other evolution, must attempt to see it as a whole, and must from the varying standpoints endeavour to understand it as a whole, its end no less than its beginning. The answer will be found in a proper understanding of what theologians call the Incarnation, for as Bridges says:

his humanity is God's personality
and communion with him is the life of the soul.

"He is no half-brother to mankind, and therefore of a nature in which humanity can only partially partake; but Elder Brother, blood-brother, the forerunner of our race, the first-fruits of every human creature; not the great Exception but the great Example, who claims no difference either of 'substance' or of 'nature' from the least of His brethren." "He became like us", says Irenaeus, "that we might become like Him." "He became human", says Athanasius, "that we might become divine."

It is God's purpose that men should be like Christ—they are whole and healthy only when they are so, and the purpose of evolution is, as Saint Paul says, "that we all come in the unity of the Faith into a perfect man unto the measure of the stature of Christ".

This is that excellent way wherein if we will walk
all things shall be added to us.

This is the solvent of our divisions and the cohesive purpose which can explain and put sense into our multifarious individual activities. This is what we see if we look deeply enough below the surface of things. Let me once again quote from Bridges:

and now with many words
pleasing myself sometimes I am fearing lest in the end
I play the tedious orator who maudeth on
for lack of heart to make an end of his nothings.
Wherefore as when a runner who hath run his round
handeth his staff away, and is glad of his rest,
here break I off, knowing the goal was not for me
the while I ran on telling of what cannot be told.

BRAIN AND MIND.

By CHARLES I. McLAREN, M.D.,
Melbourne.

PROFESSOR J. C. ECCLES, of the National University, Canberra, concludes his book on the neurophysiological basis of mind with the sentence: "For the scientist there should be no doubt that the problem of the interaction of mind and matter is a real problem, not a pseudoproblem arising from confusion in the use of words. We may agree with Sherrington and Schrödinger that the 'nature of man' is the ultimate quest of science." The quest specially concerns the psychiatrist and every physician. But Sherrington has elsewhere made it clear how elusive the problem is. "The mental", he wrote, "is not examinable as a form of energy. No mere running round the cycle of the 'forms of energy' takes us across the chasm . . . Thought, feeling and so on are not amenable to the energy (matter) concept. They lie outside it. I therefore think brain is an organ of liaison between energy and mind but not a converter of energy into mind or vice versa."

With a like viewpoint the present President of the Royal Society, Professor E. D. Adrian, O.M., has written: "There is a fundamental difficulty which does not seem to me to be soluble at all by experimental science—the difficulty of connecting physical and mental events, of bringing thoughts into the framework which we use so effectively for describing our external world. I cannot myself see how further knowledge of brain physiology will help us to reconcile mind and matter."

The difficulty thus proclaimed by eminent scientists is recognized also by those whose primary discipline has been metaphysical. H. S. Ayer, Professor of Mind and Logic in University College, London, writes: "If what we are seeking is a bridge across a seemingly impassable river it will not help merely to elevate one of the banks." Nor will it. Nevertheless firm foundations on both sides are likely to prove *sine qua non* to the bridge we yet may see. Therefore we may be grateful and hopeful whenever we see foundations being laid more firmly and truly than those previously laid. We must be prepared also to reject any which have been essayed and have proved friable and crumbling. One such which I would mention is the outdated crude materialism which would make of mind or consciousness nothing but a functionless by-product, a so-called "epi-phenomenon" of the evolutionary process. A militant materialist of a former generation put it thus: "The brain secretes thought as the liver secretes bile." But this mind "secretion", differing from bile and all other secretions, has no function, for by this same materialistic theory the cosmos is a closed energy system and its physically predetermined happenings cannot be affected by thought. I do not propose to develop an argument "to slay the slain" and further refute this irrationalism.

At the opposite extreme from materialism is the subjective idealism which says (in effect) that you and I and the other fellow not only "put up the moon" but the sun and stars and galaxies as well; which says that there is no sun except our idea of the sun. Of course, it is obvious that our consciousness of the sun is the only consciousness of it that we can have. But that there is no reality external to ourselves which brought to us consciousness of a sun, who can believe such amazing egotism? Practically, even those who call themselves subjective idealists do not act according to so wild a fantasy.

From these crumbling metaphysical speculations let us return for a while to the revelations of modern science. Thanks to the mathematicians and physicists, the physical universe can now be understood and subsumed in terms of one entity—energy, as expressed in the movements of atoms and electrons. This reduction of the cosmos is a marvellous and deeply satisfying achievement of thought and experiment.

Building upon this universal concept, and developing its implications to the relation of the brain with the rest of

the material universe (note nothing is yet being said about relation of brain to consciousness), E. L. Hutton, Clinical Director of the Burden Neurological Institute, offers us the further concept of the brain as a "microcosm" and the rest of the universe as "macrocosm". The brain he sees as part and parcel of, and of like ultimate electrical nature with, the macrocosm in which and out of which it has developed. By reciprocal afferent and efferent impulses it changes and is changed by the cosmos or "surround", as Eddington calls it.

To quote Hutton: "The cortical patterns show extraordinary similarities in their temporo-spatial relationships to the patterns from which and to which their movements flow and in fact they appear to reproduce these on a smaller scale . . . the process exemplifies the system of feed-backs used in the electronic calculating machine." Quoting Adrian, Hutton further says: "The brain is large enough to allow for a great many different local patterns at any time and for all the complex interactions between them. It is large enough to have the external world mapped out by our sense organs, with reasonable detail for the things and events which are likely to matter."

So much for a quotation from Hutton. For further information about these ideas I must refer the reader to Hutton's informative article and to the one preceding it entitled "The Concept of the Schema in Neurology and Psychiatry", by Russell Brain, in the same volume ("Perspectives in Neuro-psychiatry").

Among those who have done most to demonstrate the facts about the electrical working of the nervous system and especially of the brain is Professor J. C. Eccles, F.R.S. He not only makes it clear that the brain works as an electrically patterning mechanism, but also has been able to arrive at an approximation of the amount of energy which is necessary to alter one set of synaptic patterns to another set (with that altered physical patterning there occur corresponding altered states of consciousness). Eccles goes on to the novel suggestion that the amount of energy required to close one synaptic path and open another is so small that it may be supposed (certainly it cannot be experimentally disproved) that thought "influence" alone might effect the change. But if with Sherrington and Adrian we have been driven to think of consciousness and the spatio-temporal energy operations of the brain as disparate realities, do we get any nearer to a bridging of the chasm between them by being told that the amount of energy under consideration is very small? Is not such a suggestion reminiscent of Midshipman Easy's lady friend, who excused the coming of her irregular baby on the ground that it was "a very little one"?

Yet the logic not of a theory but of facts, especially the facts of the "conditioned reflex", does drive us to accept something very near to if not identical with Eccles's suggestion.

We know, for instance, that a red light may be the exciting cause of salivation for a dog; but a totally different kind of external stimulus, perhaps a whistle which uses a different quantity of energy, may effect the same result. Contrariwise, the animal may be conditioned so that the same stimulus produces different results. Thus it is clear that in fact it is "thought influence", the fact of meaning, which is the essential factor in determining what the result will be. But there is a constantly present factor in all cases—which invalidates Eccles's suggestions that thought influence alone effects results. Meaning is always attached to a quantity (greater or less) of physical energy. Always it is the case of a meaning-charged energy stimulus affecting a meaningfully expectant brain instrument.

Do we here begin to get a little nearer to our sought-for bridge? I think that if we weigh these facts in the light of certain conclusions arrived at by philosophically minded modern mathematical physicists, we do see, if not our bridge, at least a framework on which the bridge may be built. Sir James Jeans's conception of the nature of the material universe is that it presents itself to the mind of the investigating mathematician and physicist as an actuality which is also a logical structure. This view was even more explicitly expressed by an Australian con-

temporary of Jeans at Cambridge. The late Professor S. B. McLaren wrote in an Adams Prize Essay: "For me, matter is thought that has taken form."

The reason for such a conclusion on the part of a mathematical physicist seeking to probe the ultimate nature of matter is not difficult to understand. His mathematics and logic had enabled him to foretell (as Niels Bohr confirmed and further revealed) what the structure of the atom and the nature of the movements of the electrons would prove to be. When these mathematical prophecies were proved factual in the structure of the atom (our present ultimate in the material), it was then only one step further to say: "Matter itself is thought that has taken form."

There, I think, is a scaffolding for our bridge; and mathematics has yet another contribution to make which will help on in the bridgeworking. My mathematical friend, Mr. D. K. Picken, Master Emeritus of Ormond College, who has devoted much of his thought to the determination of the implication in mathematics of the infinite, stresses the fact that "what is contradiction in the finite becomes the commonplace of the infinite".

Though we have everyday demonstration of the fact of reciprocal influence of brain and mind, the one upon the other, yet the fact remains (as Sherrington points out) a paradox which in terms of finite brains and finite human consciousness admits of no solution. The equation must be raised to terms of the infinite. This can be done and has been done. Then, instead of considering human brain and human mind, we review a similar problem, but now in terms of the infinite; we consider on the one hand the material cosmos emerging out of primordial void and on the other the infinite Spirit whose energy and word calls the material into being. We read: "God said . . . and there was." The world appeared. Then latest in the poem's "days" man, compacted of matter and spirit, was made—man conscious of the "dust of the earth" (and of the stars) from which he came, conscious also of the Creating Spirit in Whose image he was made.

Adrian, already quoted to the effect that further knowledge of brain physiology will not help us to reconcile mind and matter, went on to say: "But I am prepared to believe that 100 years from now it will be difficult to understand why we ever puzzled about it." For myself, I venture to think we do not need to wait 100 years or even a single day, and that the solution for our quest is to be found, if we will re-read the simple but profound words of the Bible poem of creation in the light of modern physics and physiology, of ideas about microcosm and macrocosm, of feed-back mechanism and mathematical philosophy, and most of all read it with open and child-like minds. The poem tells of the creation of matter patterned by the purposing energy of Spirit. It goes on to tell of reciprocal action between matter and Spirit. "God saw what He had made" and in that stimulus from the material (so I think we may describe it) came to the divine mind consciousness "that it was good".

A like relationship is reflected in terms of the finite between the microcosm (man's brain) mirroring the macrocosm to man's finite mind. Man's consciousness depends on matter, is affected by it, but also controls it; for man, though he is not Creator, is creative in his purposes and in his refashioning of the world. Sherrington has expressed this interrelation of man and his environment in the diagram: Environment \Leftrightarrow Brain \Leftrightarrow Mind.

It is to be remembered that the environment or, as Sherrington calls it, "the surround" is both material and spiritual. Julian Huxley, who does not err on the side of minimizing the importance of man's material environment, emphasizes that man, because of his mind, lives in

¹ "Spirit" I would define as Purpose at work to goals of good or evil. Compare the concept in Newtonian physics expressed in the definition: "A body is said to do work when it moves its point of application against resistance." We humans know spirit for this best of all reasons. We are beings of an order of reality who demonstrate and experience this fundamental energy.

a new environment special to himself as a species, the "nuosphere", the world of the mind.

The implications of all this for the psychiatrist are obvious. The psychiatrist sees all too often the evidences of man's creaturely failings and of his humble origins; but (if the psychiatrist's own eyes are open) he may see also the creative powers of this being of matter and spirit.

He must therefore avail himself of every available resource, material and spiritual, for the treatment both of brain and of mind. It were folly to think that the physical alone can suffice, as it is superstition to think that the psychic alone can reshape an organically disorganized brain.

STUDIES ON INFECTION IN THE RABBIT'S EYE WITH SPECIAL REFERENCE TO DRAINAGE IN INTRAOOCULAR INFECTION.

By R. L. RAYMOND,

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THE following studies on infection in the rabbit's eye were carried out with the objects set out below.

Part I: To investigate whether hyaluronidase by its spreading effect would cause drugs to enter the aqueous more readily when injected around the eyeball.

Part II: (a) To investigate whether the hygroscopic effect of glycerine drops on the cornea would accelerate the passage of subconjunctival fluid into the cornea. (b) To investigate whether the hygroscopic effect of glycerine would promote the healing of corneal infections.

Part III: (a) To investigate whether open drainage of the anterior chamber through the cornea was possible without destroying the eye. (b) If it proved possible, to investigate whether such open drainage of the anterior chamber was of value in combating intraocular sepsis.

PART I.

Hæmoglobin solution has been found by Holborow and Keech (1951) to be a suitable dye with which to follow the spreading effect of hyaluronidase. Most of the common dyes tend to inactivate the hyaluronidase. Bright red hæmoglobin solution, 0.25 millilitre, with an equal part of standard "Rhondase" (hyaluronidase) solution, was injected subconjunctivally in a rabbit. A control solution with distilled water instead of "Rhondase" was injected at the same time in the other eye. After one hour 0.25 millilitre of aqueous was removed from each eye with a fine needle and syringe. These were submitted to Dr. R. Lemberg, who reported that on naked-eye examination he could state that no measurable amount of hæmoglobin had entered the aqueous in either specimen. Repeat experiments produced the same result.

The passage of penicillin into the eye was assessed in the same way—that is, with and without the addition of hyaluronidase in the subconjunctival injection. Adrenaline was added to the injection in about half the experiments. The amounts of penicillin entering the aqueous were judged from the bactericidal power of aqueous withdrawn from the anterior chamber at varying periods after the injection and brought into contact with a penicillin-sensitive hemolytic streptococcus.

The Almroth Wright slide cell technique was used in these experiments. The proportions of suspension of streptococci : defibrinated blood : penicillin-aqueous used were variously 1:16:16 or 1:20:20 or 1:25:25 or 1:40:40. The proportions 1:25:25 proved the most suitable. The dilutions of penicillin-aqueous used were 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048 and 4096.

The streptococci were taken from active infections in the hospital. The blood was human blood. The experiments were conducted on rabbits, and the aqueous was withdrawn with a tuberculin syringe and fine needle, which presented

TABLE I.
The Effect of Hyaluronidase when Injected with Penicillin in the Absence of Adrenaline.

Experiment Number.	Rabbit Number.	Dose of Penicillin in Units.	Site of Injection of Penicillin.	Dose of Hyaluronidase (Milligrammes.)		Interval Before Withdrawal of Aqueous.	Result of Attempted Culture.		Remarks.
				Right Eye.	Left Eye.		Right Eye.	Left Eye.	
VII	20	200,000 50,000	Subconjunctival. Subconjunctival.	NIL NIL	3·0 3·0	1 hour. 1 hour.	No growth. Growth in three cells.	No growth. No growth.	Hyaluronidase did not appear to promote penetration of penicillin.
VIII	21	50,000	Subconjunctival.	NIL	3·0	1 hour.	Growth in all cells.	Growth in all cells.	

no difficulty. The slides were set up for each experiment on a glass plate and results were easily read and compared.

By trial and error it was found that the concentration of penicillin in the aqueous was highest about one hour after subconjunctival injection.

Tables I and II set out the results of experiments to show whether hyaluronidase when mixed with penicillin in subconjunctival injection increases the passage of penicillin into the aqueous and the effect of adrenaline in the solution injected. The details of the experiments are set out in Tables I and II.

EXPERIMENT XIII, RABBIT 26.—This experiment was to test whether penicillin in the presence of hyaluronidase was absorbed better from subconjunctival injection than from deep injection beneath Tenon's capsule around the eyeball.

In the right eye a subconjunctival injection of 50,000 units of penicillin with adrenaline and hyaluronidase was given; aqueous was withdrawn after thirty minutes.

In the left eye 50,000 units of penicillin with adrenaline and hyaluronidase were injected beneath Tenon's capsule; aqueous was withdrawn after thirty minutes.

Both specimens were cultivated in dilutions 2 to 4096. There was growth in the eight weakest dilutions from the right eye and in the nine weakest dilutions from the left eye, and also in dilution 4 in the left eye; that is, penicillin absorption seems to be better from the subconjunctival position than from beneath Tenon's capsule. (Compare similar findings by Sorsby and Ungar, 1950.)

EXPERIMENT XIV, RABBIT 27.—Experiment XIV was a repetition of Experiment XIII with a similar result.

EXPERIMENT XV, RABBIT 28.—Experiment XV was substantially a repetition of Experiment XIII, with a similar result. The deep injection was partly retrobulbar and partly beneath Tenon's capsule. The absorption of penicillin was better from the subconjunctival position.

Deductions from Experiments I to XVI.

The following deductions are made from Experiments I to XVI.

1. There is no evidence that hyaluronidase increases the absorption of penicillin into the aqueous when injected around the eyeball, subconjunctivally, beneath Tenon's capsule or retrobulbarly. The tendency seems to be in the opposite direction, presumably because the hyaluronidase causes rapid absorption of the penicillin solution into the

loose tissues of the orbit, and the penicillin is therefore retained adjacent to the eyeball for a shorter period and so has a shorter period of time during which it can pass into the eye.

2. Penicillin injected subconjunctivally and therefore in closer proximity to the limbus passes more readily into the aqueous than does penicillin injected elsewhere around the eyeball. In view of the known exchange of corneal metabolites via the limbus, it is suggested that the limbus is also the portal of entry into the aqueous of chemical substances injected around the eyeball. If that is so, it is important that therapeutic substances injected around the eyeball to exert their influence intraocularly should be injected strictly subconjunctivally.

PART II (a).

The premises from which this investigation stems are as follows: (i) that subconjunctival injection of penicillin is an established treatment for corneal ulcer, and therefore penicillin injected subconjunctivally must pass into the cornea, presumably via the limbus; (ii) that in corneal oedema glycerine drops applied on the cornea clear the cornea by virtue of the hygroscopic effect of the glycerine which extracts the oedema fluid from the cornea.

It was intended to try to observe the passage into the normal cornea of coloured fluids, methylene blue or fluorescein, injected subconjunctivally, under the influence of glycerine applied to the cornea. If this movement of fluids could be shown to be accelerated, it would provide grounds for the use of glycerine drops, with or without subconjunctival injection of penicillin, in the treatment of corneal ulcer.

EXPERIMENT I, RABBIT 3.—A subconjunctival injection of four minims of 1% methylene blue solution was given. After five minutes glycerine drops were instilled every five minutes for three-quarters of an hour. After forty-five minutes there was still no sign of blue staining of the periphery of the cornea.

EXPERIMENT II, RABBIT 4.—A subconjunctival injection of four minims of 1% fluorescein solution was given. After five minutes glycerine drops were instilled every five minutes for forty-five minutes. At the end of this period there was still no sign of fluorescein staining of the periphery of the cornea.

These experiments did not demonstrate any movement of fluids from the subconjunctival spaces into the cornea.

TABLE II.
The Effect of Hyaluronidase when Injected with Adrenaline Combined with Penicillin.

Experiment Number.	Rabbit Number.	Dose of Penicillin in Units.	Site of Injection of Penicillin.	Dose of Hyaluronidase (Milligrammes.)		Interval Before Withdrawal of Aqueous.	Result of Attempted Culture.		Remarks.
				Right Eye.	Left Eye.		Right Eye.	Left Eye.	
IX	22	50,000	Subconjunctival.	NIL	3·0	1 hour.	Growth in all cells.	Growth in all cells.	
X	22	50,000	Subconjunctival.	NIL	3·0	1 hour.	Growth in four cells.	Growth in five cells.	
XI	24	50,000	Subconjunctival.	NIL	1·5	1 hour.	No growth.	Growth in two cells.	
XVI	29	50,000	Subconjunctival.	1·5	NIL	25 minutes.	Growth in 11 cells.	Growth in 10 cells.	The penetration of penicillin was definitely not promoted by the addition of hyaluronidase plus adrenaline.

though that is not to say that it does not take place, for if glycerine extracts fluid from the cornea it must be replaced from somewhere, and it is more likely to come via the limbus than through the corneal endothelium, and through Descemet's membrane from the aqueous.

PART II (b).

If the application of glycerine to the cornea does in fact increase the flow of tissue fluids through the cornea, it is reasonable to suppose that infected wounds and ulcers of the cornea would benefit from being bathed in the frequently replenished tissue fluids drawn out of the cornea by the hygroscopic effect of the glycerine. The analogy is the use of hypertonic saline or magnesium sulphate and glycerine paste on wounds. To test this hypothesis linear abrasions of the cornea of each eye of a rabbit were made with a needle point, and a strong suspension of haemolytic *Staphylococcus aureus* was rubbed into the wound. The wound was either superficial or through Bowman's membrane into the *substantia propria*. One eye was then given repeated instillations of glycerine, while the control wound in the other eye had no treatment. The natural resistance of the eyes was able to throw off the infection in both cases, perhaps because of the bactericidal power of the lysozyme in the tears, so that no striking contrasts were seen.

However, it was thought that the extent of the abrasion and the actual number of organisms forced into the wound by the process of rubbing in the suspension could not be strictly comparable in the two eyes. Both these objections were overcome by injecting the suspension into the superficial layers of the cornea with a fine hypodermic needle. The injection at once produced a clearly delineated milky haze where it infiltrated the cornea, and it was easy to produce milky areas of the same size in the control eye and in the glycerine-treated eye. After such an injection the cornea became hazy throughout with an ulcer at the site of the injection. After about four weeks the infection was thrown off, usually only a small scar being left at the site of the injection.

The end results were too nearly the same in the glycerine-treated eyes and in those which had no treatment to be significant in these experiments. However, these experiments have been recorded because there seems to be an indication for further investigations along these lines in view of the good clinical results which have been obtained with glycerine drops in otherwise resistant cases of corneal ulcer. In this connexion it is noteworthy that the Russian ophthalmologist Dozorova (1951) has recorded good results from the local use of 40% glucose solution and powdered glucose, and also claims benefit in early corneal opacities.

PART III.

Intraocular infection may be thought of as analogous to a closed abscess cavity, of any degree of acuteness or chronicity. If we pursue this analogy, an acute intraocular infection should be treated by drainage as in the case of an acute abscess. The consequent benefit of draining away large numbers of infecting organisms and the replacement of the pus with fresh tissue fluids containing antibodies is self-evident. The question is whether drainage of an eye—either continuous or intermittent—is a practical proposition. Corneal fistula is an example of continuous drainage, and may continue for a long time without the development of intraocular infection. Saemisch's section is an example of temporary drainage, and paracentesis with repeated evacuation of aqueous through the paracentesis wound is an example of intermittent drainage. It has been found that the eye can tolerate well all these conditions, often with considerable benefit; but the principle of continuous or intermittent drainage of an eye for intraocular infection has not, I think, been put to the test. Rather has reliance been placed on introducing suitable antibiotics into the eye by various means, and in less recent times the cruder antiseptics. There is ample clinical and experimental evidence that the use of antibiotics for combating intraocular infection, when the offend-

ing organism is sensitive to the chosen antibiotic, is highly successful, even sometimes in advanced cases. However, if drainage was of value, it would supplement and increase the efficiency of antibiotics and it would be especially useful when organisms are resistant to antibiotics, or when the use of antibiotics presents difficulties, or even when they are not available or are contraindicated. Tests were therefore made to observe whether the rabbit eye would tolerate open drainage.

The methods used were as follows: (i) a seton of three strands of fine tantalum wire was passed through the anterior chamber; (ii) a simple trephine hole was made through the periphery of the cornea, and this was followed by an iridectomy through the trephine hole to prevent the iris from prolapsing into the hole and so closing it.

The Tantalum Wire Seton.

It was thought that if three strands of tantalum wire were used there would be a leakage of aqueous between the strands, whereas a single strand passing through the cornea might be watertight from swelling of the cornea around the wire.

A sharp lumbar puncture needle was passed across the anterior chamber from the 2 o'clock to the 10 o'clock position on the periphery. The wires had already been threaded into the needle and were then pushed on to emerge at the point. The wires were then grasped and the needle was withdrawn, the wires being left threaded through the anterior chamber. The lids were sewn together with the loose ends of the wires projecting between them, and at the same time the wires were caught in the lid stitches to prevent them from sliding in the anterior chamber. The rabbits were kept in their cages without any special after care. The wires were withdrawn after one or two weeks, after first being wiped with eusol. There was a variable amount of local corneal haze in the region of the holes in the cornea, but all these eyes gradually returned to normal, except for the small scars in the position of the holes. That the drainage was effective was evidenced by the fact that the eye was soft until the wires were removed.

It will be realized that the asepsis of this technique was not perfect, especially the removal of the wires, and the post-operative nursing care in the rabbit's cage was, of course, nil. Nevertheless, the procedure was never complicated by obvious intraocular infection.

Corneal Trephining.

It was thought that the eye might tolerate an artificial corneal fistula. Therefore a trephine hole 1.5 millimetre in diameter was made at the 12 o'clock position in the cornea about two millimetres from the limbus. As the hole was at once occluded by prolapse of the iris, a large iridectomy was performed through the trephine hole and the edges of the coloboma fell well away from the hole.

The hole was well covered by the upper lid, so the lids were not sewn together. No post-operative treatment was given, and when the eye was examined again after one week the hole was closed, the anterior chamber was formed and the eye white and media were clear.

In the hope that a larger trephine hole would remain open longer, the same procedure as above was adopted with a two millimetre trephine and with the same result—namely, the eye was healed and quiet when examined after seven days.

There is evidence that the drainage through the trephine hole is not so prolonged as it is when a seton is used, as the hole seems to become closed fairly soon by a clot of altered aqueous. There were not the facilities for investigating in detail just how long the trephine hole two millimetres in diameter continued to drain. However, it was evident that the hole two millimetres in diameter had no disadvantages over a hole 1.5 millimetres in diameter, and might be expected to remain patent somewhat longer. Therefore, in the subsequent experiments a two millimetre trephine was always used.

Drainage and Infection.

Having therefore established that a rabbit's eye would tolerate open drainage through the cornea by a tantalum wire seton or by a trephine hole, we were then in a position to produce intraocular infection by the injection of virulent organisms into the anterior chamber, and test whether the eye would throw off the infection if it was drained by one of these two methods or by single or repeated paracentesis on one or more occasions.

Sorsby (1948) had used injections into the anterior chamber of 50,000 virulent organisms in his experiments to test the value of subconjunctival injections of penicillin, and had found that the control eyes always became blind from panophthalmitis. In two early controls we had the same result and ceased the wanton destruction of eyes as controls. However, near the end of the investigation two eyes threw off the infection caused by 50,000 organisms, presumably because the virulence had become attenuated by repeated subculture. Larger doses invariably destroyed the control eyes. It will be shown that eyes infected with corresponding large doses and subsequently drained by one of the foregoing methods were almost invariably saved, and in the great majority of cases returned to normal without scarring or synechia that impaired the vision. Ophthalmoscopic examination was carried out to make certain that the vitreous was clear and free of floaters, and that there were no visible patches of choroiditis, healed or active.

The experiments conducted were as follows.

To Test Whether the Rabbit's Eye Would Tolerate Open Drainage.

EXPERIMENT I, RABBIT 31 (Left Eye).—A single tantalum wire was threaded through the periphery of the anterior chamber; 25,000 units of penicillin were injected subconjunctivally. After one week there was intense hyperemia of the adjacent conjunctiva with haziness of the adjacent one-third of the cornea. The edges of the holes in the cornea were sloughing and the holes enlarged. The anterior chamber was shallow but formed, and the iris was normal in appearance. The aqueous was clear. The wire was wiped with eusol and removed.

At the end of the second week the corneal wounds had healed and the eye was white. The corneal haze was less. Aqueous and iris still appeared normal. A subconjunctival injection of 50,000 units of penicillin was given. After the third week the whole cornea was clear and the eye appeared normal except for the scars at the site of the two holes.

EXPERIMENT II, RABBIT 35.—Two strands of tantalum wire were passed through the anterior chamber. A subconjunctival injection of 50,000 units of penicillin was given. After one week the appearances were the same as in Experiment I, except that the pupil was slightly drawn up towards the wire and the eye was not quite so red. The wire was removed and this eye followed the same course to recovery as in Experiment I.

EXPERIMENT III, RABBIT 49.—A trephine hole 1.5 millimetres in diameter was made at 12 o'clock in the cornea, one millimetre from the limbus. The iris prolapsed and a large iridectomy was performed. No further treatment was given and the lids were not sutured together. After one week the hole was closed and the anterior chamber well formed. There was a little exudate in the pupil, but the eye seemed otherwise quite normal. After the second week the exudate in the pupil had disappeared, and the eye was normal except for the trephine scar and the iridectomy.

EXPERIMENT IV, RABBIT 51.—A trephine hole 1.5 millimetres in diameter was made two millimetres from the limbus, to ensure that the root of the iris could not obstruct the hole after iridectomy. After one week the hole was closed and the eye had returned to normal. Pressure on the eye could not cause aqueous to leak from the wound.

EXPERIMENT V, RABBIT 63.—A trephine hole two millimetres in diameter was made at the 12 o'clock position in the cornea, followed by a large iridectomy. After one week the wound had healed, the anterior chamber was formed and the eye was normal.

The foregoing five experiments showed that the rabbit's eye would tolerate these forms of open drainage through the cornea.

To Test Whether Open Drainage Favoured Recovery.

It having been shown that the eye tolerates open drainage, the following experiments were performed in order to discover whether open drainage would favour recovery in artificially induced intraocular infections produced by injecting haemolytic *Staphylococcus aureus* into the anterior chamber. A number of control experiments were performed, but were limited by a desire not to inflict unnecessary mutilation.

Sorsby (1948) reported the consistent loss of eyes after injection of 50,000 organisms into the anterior chamber. We got the same results in two early controls; but when the experiments were repeated after one year of weekly subcultures with the same haemolytic *Staphylococcus aureus*, two out of three eyes recovered in four weeks after showing severe infection. The following experiments were then conducted by injecting 7,000,000 haemolytic *Staphylococcus aureus* organisms into the anterior chamber, a dose comparable to that used in the later drainage experiments.

EXPERIMENT I, RABBIT 73 (CONTROL).—A dose of 7,000,000 haemolytic *Staph. aureus* organisms were injected into the anterior chamber of the right eye. After one week very severe endophthalmitis was present, and after two weeks the eye was destroyed. In this case it was remarkable that the left eye, which had not been injected, was destroyed by endophthalmitis. After four weeks both eyes were white; but there was occlusion of the pupils with *iris bombe* in the left eye.

EXPERIMENT II, RABBIT 75 (CONTROL).—A dose of 7,000,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. After one week severe endophthalmitis was present, and after two weeks the cornea had sloughed and the eye was totally destroyed.

EXPERIMENT III, RABBIT 75 (CONTROL).—In the injection of the right anterior chamber the needle slipped out, and the dose given was less than 7,000,000 organisms, so a further injection of 7,000,000 organisms was given into the left anterior chamber. There was severe endophthalmitis in both eyes after one week, and after two weeks both eyes were totally destroyed.

These experiments confirm the findings of Sorsby.

In contrast to the end results of these controls, the following experiments will show the great degree of recovery which ensued in comparable rabbits after drainage operations. Table III sets out in brief the procedure and the end results of experiments on 16 eyes in which endophthalmitis was produced by injections of pathogenic organisms into the anterior chamber, and then treated by drainage of the anterior chamber. The details of these experiments are recorded in Appendix A.

DISCUSSION.

The control Experiments I to III with large doses of haemolytic *Staphylococcus aureus* in the anterior chamber have shown that without any treatment the intraocular infection advances to destruction of the eye. This holds to a lesser degree when small doses of attenuated organisms are used.

When the infected eyes were treated by some form of drainage only, the eyes recovered in every case except when a massive dose of 100,000,000 organisms was injected (Experiments VI and XII), and even in Experiment XII after three trephine holes had been made in the cornea the eye seemed healthy except for the large corneal scar. Histological examination of this eye proved a technical failure. In the remaining experiments only Rabbit 46 (Experiment VII) and Rabbit 64 (Experiment XIII) showed any recognizable deviations from normal in the end result, and these were relatively slight.

It is therefore asserted that drainage of the anterior chamber is an important procedure in treating intraocular infection. In clinical practice it would, of course, be combined with intensive antibiotic treatment, which could in these circumstances be based more exactly on cultures of the aqueous, instead of on cultures from the conjunctival sac, which could be misleading. To obtain a specimen of aqueous for culture it is safest and easiest to make a

TABLE III.
Summary of Experiments Performed to Test the Effect of Drainage of the Eye in Artificially Produced Intraocular Infection in Rabbits.

Experiment Number.	Rabbit Number.	Number of Organisms (<i>Haemolytic Staphylococcus aureus</i>) Injected into Anterior Chamber.	Interval Before Drainage.	Technique of Drainage.	Penicillin: Whether Given, After what Interval, and Amount in Units.	End Result.
IV	38	25,000	7 hours.	Seton.	100,000 after one week and after two weeks. Nil.	Normal eye.
V	40	25,000	7 days.	Seton.	Nil.	Normal eye except for some corneal scar.
VI	43	100,000,000	10 minutes.	Seton.	Nil.	Eye destroyed.
VII	46	25,000	1 hour.	Seton.	Nil.	Recovery except for central corneal scar and pupil slightly drawn up towards seton holes.
VIII	54	100,000	4.5 hours.	1.5 millimetres iridectomy, trephine and	Nil.	Normal eye.
IX	55	100,000	5 hours.	Paracentesis.	Nil.	Normal eye.
	56	100,000	5 hours.	1.5 millimetres iridectomy, trephine and	Nil.	Normal except for small vascularized scar central to trephine hole.
X	57	50,000	6 hours.	1.5 millimetres iridectomy, trephine and	Nil.	Normal eye.
XI	58	100,000	5 hours.	1.5 millimetres iridectomy, trephine and	Nil.	Normal eye.
XII	62	100,000,000	5.5 hours.	1.5 millimetres iridectomy; trephined in two places after one week.	Nil.	Clear anterior chamber and iris but considerable corneal scar.
XIII	64	10,000,000	5 hours.	2.0 millimetres iridectomy, trephine and	Nil.	Cornea, anterior chamber vitreous and fundus normal. Some posterior synechiae and pupillary membrane.
XIV	65	10,000,000	5 hours.	Paracentesis.	Nil.	Normal eye.
	66	5,000,000	5 hours.	Paracentesis.	Nil.	Normal eye.
	67	5,000,000	5 hours.	2.0 millimetres iridectomy, trephine and	Nil.	Normal eye.
XV	68	5,000,000	5 hours.	2.0 millimetres iridectomy, trephine and	Nil.	Normal eye.
	69	5,000,000	5 hours.	Paracentesis.	Nil.	Normal eye.

paracentesis incision first, without loss of aqueous, and then slide a cannula or fine needle through the incision to withdraw the aqueous.

While one can assert with some confidence that drainage is important, it is not possible at this stage to state what is the best form of drainage. The tantalum wire seton would seem to provide the most efficient drainage, but may prove too mutilating even under the best surgical and nursing conditions, and may lead to excessive corneal scarring in spite of being placed at the periphery of the cornea. Its presence did not produce lens opacities even when it was left in the eye for a week or more. Some softer and more suitable seton than tantalum wire may prove to be the answer.

Trephining with iridectomy has the advantage of greater simplicity, less mutilation and consequent corneal scarring, and less chance of being left with a *seclusio pupillae* because of the iridectomy. The trephine hole may not remain open for as long as desired, but it is easily restored temporarily with a needle point. The hole does not seem to remain open long enough to risk epithelialization of the track with resulting fistula or glaucoma. Paracentesis is the simplest procedure. Although it does not provide continuous drainage, the wound can be reopened or the procedure repeated, and in these animal experiments it has been as effective as trephining. It is therefore the method that would seem most suitable for first trial on human subjects. In this connexion it is of interest that in a human subject the keratic precipitates disappeared in a long-standing case of iridocyclitis after aqueous was withdrawn for culture. This patient had been under treatment at various clinics for eight years. Emboldened by this phenomenon, I repeated the paracentesis three times at weekly intervals; the keratic precipitates have not returned over period of three months, and the eye has lost all discomfort previously felt.

Three further patients with acute iridocyclitis which was slow to respond to treatment have since been treated by paracentesis, with more than encouraging results. It is suggested that these responses to paracentesis are comparable to those obtained experimentally in the foregoing animal experiments and are worthy of further trial.

SUMMARY.

1. In experiments on rabbits hyaluronidase did not increase the passage of haemoglobin solution or of penicillin into the eye after subconjunctival or retrobulbar injections, or after injection beneath Tenon's capsule.

2. It was found that dyes injected subconjunctivally in rabbits did not pass more readily across the limbus under the influence of glycerine drops on the cornea.

3. Contrary to clinical experience, it was not confirmed experimentally that the local application of glycerine was able by its hygroscopic effect to accelerate the healing of experimentally produced corneal ulcers in rabbits.

4. It was shown that the rabbit's eye would tolerate drainage of the anterior chamber by (i) a tantalum wire seton threaded through the periphery of the anterior chamber and left for one week, (ii) a trephine hole two millimetres in diameter through the cornea, not covered by any conjunctival flap.

5. It was also found that the cure of experimentally induced intraocular infections in rabbits was greatly aided by drainage of the anterior chamber.

6. It is suggested that the principle of drainage of the anterior chamber may be applicable to all intraocular infections in humans.

ACKNOWLEDGEMENTS.

I have to thank Dr. W. W. Ingram, the staff of the Institute of Medical Research, and the staff of the animal house, of the Royal North Shore Hospital of Sydney, for permission to use their facilities and for their constant help and advice.

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APPENDIX A.

EXPERIMENT IV, RABBIT 38.—A dose of 25,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. After seven hours a double tantalum wire seton was threaded through the anterior chamber and the lids were sutured. The wires were removed after two weeks, at which time the eye was soft and the cornea hazy; 100,000 units of penicillin were given subconjunctivally, and the dose was repeated after one week. After four weeks the cornea and anterior chamber were clearing well, and after six weeks the eye had returned to normal.

EXPERIMENT V, RABBIT 40.—A dose of 25,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. After seven days there was a low-grade endophthalmitis, and a double tantalum wire seton was introduced. After another week the seton was removed. Cloudiness of the anterior chamber was present, and there was a fibrinous mass in the lower part. The eye was soft. Two weeks later the anterior chamber and the cornea were clearing well and the fibrinous mass had absorbed. After a further three weeks the eye was normal except for some corneal scarring.

EXPERIMENT VI, RABBIT 43.—A dose of 100,000,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. A wire seton was introduced after ten minutes. This eye was finally lost on account of perforation of the cornea and total anterior synchiae.

EXPERIMENT VII, RABBIT 46.—A dose of 25,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. After one hour a triple wire seton was introduced. The seton was removed after one week. There was much corneal haze and some fibrinous exudate, but the aqueous was clear and the iris pattern seemed normal. After two weeks the eye was white but soft, and the anterior chamber as before. After a further two weeks the cornea had perforated and the anterior chamber was absent; but a week later the anterior chamber was well formed and the iris was in good position. This experiment ended with a normal eye except for a central corneal scar and a pupil slightly drawn up towards the seton holes. There was no vitreous haze and the fundus was normal.

EXPERIMENT VIII, RABBIT 54.—A dose of 100,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. After four and a half hours there was evidence of infection with some fibrinous exudate. A trephine hole 1.5 millimetres in diameter was made at the 12 o'clock position and iridectomy performed. After one week the eye was almost white, the hole was closed and the anterior chamber was well formed. There was some corneal haze round the hole, and a small hyphaema was present. After two weeks the eye had returned to normal with normal ophthalmoscopic appearances.

EXPERIMENT IX, RABBITS 55 and 56.—This experiment was carried out to compare the results of drainage by a trephine hole and by simple paracentesis of the anterior chamber. A dose of 100,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber of one eye of each rabbit. After five hours there was visible evidence of intraocular infection. In Rabbit 55 the anterior chamber was completely emptied by paracentesis in two places, in Rabbit 56 by a trephine hole 1.5 millimetres in diameter and iridectomy. After one week both eyes still showed some intraocular infection and exudate, in Rabbit 56 more so than in Rabbit 55. The trephine hole in Rabbit 56 was sealed, but the scar was easily pricked open with a needle and the anterior chamber drained again. After two weeks the eye of Rabbit 55 (paracentesis) was practically normal. The eye of Rabbit 56 was healing well, but not quite as good as that of Rabbit 55. There was some corneal haze above the mid-line. After four weeks the eye in Rabbit 55 was normal and that in Rabbit 56 quite healed, a small vascularized scar being left on the cornea central to the trephine hole. Ophthalmoscopic examination gave normal findings in both eyes. In this case the paracentesis had produced a better end result than the trephine.

EXPERIMENT X, RABBIT 57.—A dose of 50,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. After six hours a trephine hole 1.5 millimetres in diameter was made and iridectomy was performed. Intraocular infection was evident. After one week the eye was almost normal. After two weeks the eye was apparently normal.

EXPERIMENT XI, RABBIT 58.—A dose of 100,000 haemolytic *Staph. aureus* organisms were injected into the anterior chamber. After five hours a trephine hole 1.5 millimetres

in diameter was made and iridectomy was performed. After one week there was little evidence of infection, and after two weeks the eye was apparently normal. Ophthalmoscopic examination gave normal findings.

EXPERIMENT XII, RABBIT 62.—A dose of 100,000,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. After five and a half hours a trephine hole 1.5 millimetres in diameter was made and iridectomy was performed. There was already much intraocular infection and exudate. After one week the infection was still so severe that the cornea was retrephined in two places at the 11 o'clock and 6 o'clock positions. After two weeks the infection was still very severe, both trephine scars were bulging and the cornea was hazy. After three weeks the eye was whitening and the cornea was shiny and free from oedema. After five weeks the eye was quiet and the iris pattern was well seen, but there was opacity over half the cornea. This eye gradually settled down and was left with a clear anterior chamber and iris, but considerable corneal scar.

EXPERIMENT XIII, RABBITS 64 and 65.—This experiment was conducted to compare results of trephining and paracentesis.

In Rabbit 64 a dose of 10,000,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber. After five hours a trephine hole two millimetres in diameter was made, and iridectomy was performed. After one week there was a moderate degree of intraocular infection with exudate, and the hole had closed. There was slight corneal haze. The anterior chamber was re-drained by pricking open the thin scar at the trephine hole. After three weeks the anterior chamber and cornea were approaching normal. After four weeks the eye was clearing well. After eight weeks the eye was quiet, but had some posterior synchiae and some fine strands of pupillary membrane. However, the fundus was well seen and was normal, and the vitreous was clear. This case demonstrates the value of the iridectomy, as without it there may have been a *seclusio pupillae*.

In Rabbit 65 a dose of 10,000,000 haemolytic *Staph. aureus* organisms were injected into the anterior chamber. After five hours paracentesis of the anterior chamber was performed, with complete emptying. After one week there was moderate intraocular infection, with rather more fibrinous exudate than in Rabbit 64, but less corneal haze. A second paracentesis was performed. After three weeks the anterior chamber and cornea were approaching normal—comparable to those of Rabbit 64. After four weeks the pupil was clear and round, and the eye was almost normal. At eight weeks the eye was quite normal. Again, the end result was rather in favour of paracentesis compared to trephining.

EXPERIMENT XIV, RABBITS 66 and 67.—This experiment was conducted to compare the results of paracentesis and trephining. A dose of 5,000,000 haemolytic *Staph. aureus* organisms was injected into the anterior chamber of one eye in each rabbit. After five hours paracentesis was performed on the eye of Rabbit 66 and trephining on the eye of Rabbit 67. After one week there was a moderate amount of intraocular infection, more severe in Rabbit 66 (paracentesis) than in Rabbit 67 (trephining). After two weeks both eyes were almost normal. After five weeks both eyes were apparently normal. The vitreous was clear and the fundus normal.

In this experiment any advantage was in favour of trephining as compared to paracentesis.

EXPERIMENT XV, RABBITS 68 and 69.—Again, this experiment was conducted to compare the results of paracentesis and trephining. A dose of 5,000,000 haemolytic *Staph. aureus* organisms was injected into one anterior chamber of each rabbit. After five hours, trephining was carried out in Rabbit 68 and paracentesis in Rabbit 69. After one week there was slight intraocular infection with exudate in both eyes—rather more severe in Rabbit 69 (paracentesis) than in Rabbit 68 (trephining). After two weeks the eye of Rabbit 68 (trephining) was apparently normal, and that of Rabbit 69 (paracentesis) was almost normal, with a little fibrinous exudate remaining. After three weeks the eye of Rabbit 69 was also apparently normal, ophthalmoscopic findings included. In this experiment also any advantage lay with trephining as opposed to paracentesis.

Comment.

To sum up Experiments XIII, XIV and XV, there is little to choose in the results obtained in draining the anterior chamber by paracentesis or by trephining.

THE FIBROUS CAPSULE OF THE PAROTID GLAND.

By E. S. MEYERS,
Brisbane.

THIS article is the last of a series on the anatomy of the neck undertaken between the years 1930 and 1954.

The arrangement of the fascial coverings of the submandibular and thyroid glands has been described in various papers; but the present study is one to illustrate the fascial relations of the parotid gland.

Campbell's Description.

A very good description of the parotid capsule is given by Campbell (1931) as follows:

The fibrous capsule of the parotid is formed from the deep cervical fascia which is continuous behind with the sheath of the sterno-mastoid and in front with the masseteric aponeurosis. The parotid capsule plays an important role in the pathology of the gland, since the gland is not entirely enclosed by its capsule.

The capsule is strongest externally and below. It is weakest in front at the posterior border of the jaw. It is deficient internally near the styloid process, where a portion of the gland is in direct relationship with the lateral wall of the pharynx. It is incomplete above, where it is in direct contact with the external auditory meatus and the posterior part of the capsule of the temporo-mandibular articulation.

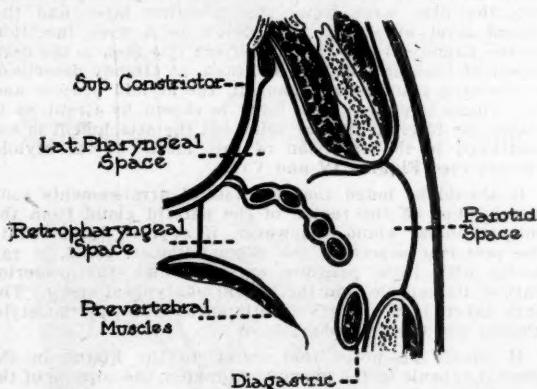


FIGURE I.

Diagrammatic picture, adapted from Poirier and Charpy (1914), showing relation of parotid to lateral pharyngeal space.

Hence collections of pus within the gland spread in the direction of least resistance, forwards towards the cheek, upwards towards the external auditory meatus and temporo-mandibular joint, and inwards towards the pharynx. Conversely, suppuration present in the external auditory meatus, middle ear, and temporo-mandibular joint or retro-pharyngeal abscess may point in the parotid region.

Testut's Description.

Testut (1928) writes of the parotid gland as follows:

The investing layer immediately encircles the parotid gland from without to the inside and below to the front, and extends successively into relation with firstly the styloid process to which it is attached, from which level sheaths branch out onto the styloid muscles, secondly with the pharynx, and thirdly with the posterior edge of the internal pterygoid muscle, and fourthly with the posterior border of the maxilla on which it is inserted and fuses at this level with the masseteric.

This continuation, as is evident, surrounds in its deep part the parotid gland, and from this fact constitutes the three walls—the posterior, anterior and external of



FIGURE II.

Drawing made from a dissection by Associate Professor M. F. Hickey: 1, the stylo-mandibular ligament; 2, digastric muscle; 3, investing layer of deep cervical fascia.

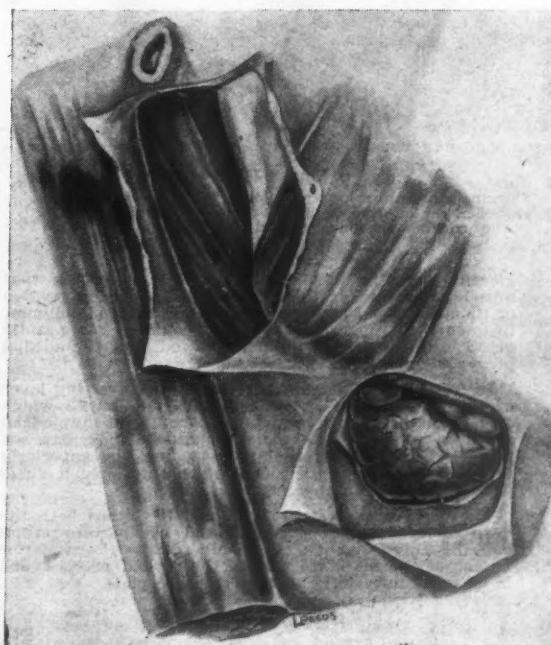


FIGURE III.

Showing the parotid space and the fascia separating the parotid and submandibular regions.

the parotid capsule. It provides in passing over the lateral wall of the pharynx a breach of continuity, the real opening, through which projects a continuation of the parotid gland.

This is illustrated in Figure I.

"Cunningham's" View.

In "Cunningham's Manual of Practical Anatomy" the following description is given:

The portion [of the cervical fascia] between the styloid process and posterior border of the mandible gives attachment to some of the fibres of the stylo-

connecting the anterior border of the sterno-mastoid to the angle of the mandible, thus forming the curved plane of separation between the parotid and submandibular glands.

Figure II shows these relationships.

The Condition Found on Dissection.

I think the description of the position of the fascia as given by Testut is the most correct, and that there is a pharyngeal prolongation of the parotid gland which is not covered by *fascia propria*, as Testut states. It is quite true that there is a layer of fascia attached to the styloid process and tympanic plate; but this layer of fascia is attached there, and deep to it the carotid sheath is found.

The Parotid Space.

The parotid space was described in 1938 (Meyers and Macpherson, 1938), and it is of course lined by the fascial covering of the various muscles found in that region. In Figure III, which is adapted from Poirier, we see the parotid space and also the strong layer of fascia which occupies the interval between the angle of the jaw and the sterno-mastoid muscle to separate the parotid from the submandibular gland.

The Fascial Layers Above the Hyoid Bone.

It has been shown that below the level of the hyoid bone there are three layers of fascia, the first being the investing layer, the second layer the sterno-omohyoid layer, and the third the sterno-thyroid layer. However, above the hyoid bone these three layers are replaced by two, the first layer being the investing layer and the second layer extending from below to a wide insertion above—namely, first to the mylo-hyoid line, then to the deep aspect of the angle of the jaw, then, as already described, to the stylo-mandibular ligament, the styloid process and the tympanic plate. This layer is shown by Grant as it covers the internal jugular vein; but the attachment is not continued to the insertion of this fascia to the styloid process (see Figures IV and V).

It should be noted that the fascial arrangements completely shut off the region of the parotid gland from the submandibular gland. However, if a probe is passed to the posterior aspect of the submandibular gland, it can easily with little pressure enter through the posterior part of its capsule into the lateral pharyngeal space. The path taken is the fascial continuation between the stylo-glossus and the stylo-pharyngeus.

It should be noted that owing to the hiatus in the parotid capsule in the pharyngeal region, the capsule of the parotid and the lateral pharyngeal space are continuous.

Some Applications.

It was shown by Barlow that pus under pressure may pass from the region of the parotid to the region of the submandibular and vice versa (Figure VI).

Collections of pus in this region can very easily be evacuated. All that one has to do is to incise the fascia on the posterior belly of the digastric muscle and by insertion of the finger the fascial sheaths of the styloid muscle are easily broken down and the finger can be readily passed to the pharyngeal wall and a drain inserted in cases of suppuration.

In the operation of total removal of the parotid gland the facial nerve can be secured in the first place by turning down the sterno-mastoid muscle and incising the fascia over the digastric muscle, and then a little above and internal to it the nerve can be secured. It will be found, too, that by turning the sterno-mastoid muscle down from its insertion into the mastoid process, access to the parotid gland is made very much easier.

Summarizing the arrangement of the fascia, we shall see that we have to consider five layers of fascia developed in relation to their muscles, their warp and woof depending largely upon the functions of the muscle as described in previous publications. Thus we have the investing layer of fascia, the second layer as described, the parotid fascia, the fascia covering the constrictor and related muscles of

FIGURE IV.

Showing investing layer of deep cervical fascia (1), second layer of deep cervical fascia (2), fascia covering the constrictor muscles and stylopharyngeus (3).

glossus. As a result of the tension put upon it by that muscle it is thicker than the rest of the deep portion of the sheath and is given the name of stylo-mandibular ligament; it separates the lower part of the parotid gland from the submandibular gland and the medial pterygoid muscle

In front on the mastoid temporal (the investing layer of the deep fascia) . . . consists of two layers which ensheathe the parotid gland. The layer prolonged upwards to cover the gland superficially is attached posteriorly to the external auditory meatus, superiorly to the zygoma and its roots, while anteriorly it fuses with the fascia on the masseter muscle.

The deep layer is very thin, and it clothes both the deep surfaces of the parotid gland, the postero-medial and the antero-medial. It is adherent to the posterior border of the mandible and to the styloid process, and is attached superiorly to the tympanic plate.

Hickey's View.

M. F. Hickey, in a personal communication, gives the following description:

The stylo-mandibular ligament should be called the stylo-mandibular fascia. Its lower "edge" traced inferiorly moves laterally to fuse with the fused fasciae

FIGURE IV.

Showing investing layer of deep cervical fascia (1), second layer of deep cervical fascia (2), fascia covering the constrictor muscles and stylopharyngeus (3).

glossus. As a result of the tension put upon it by that muscle it is thicker than the rest of the deep portion of the sheath and is given the name of stylo-mandibular ligament; it separates the lower part of the parotid gland from the submandibular gland and the medial pterygoid muscle

In front on the mastoid temporal (the investing layer of the deep fascia) . . . consists of two layers which ensheathe the parotid gland. The layer prolonged upwards to cover the gland superficially is attached posteriorly to the external auditory meatus, superiorly to the zygoma and its roots, while anteriorly it fuses with the fascia on the masseter muscle.

The deep layer is very thin, and it clothes both the deep surfaces of the parotid gland, the postero-medial and the antero-medial. It is adherent to the posterior border of the mandible and to the styloid process, and is attached superiorly to the tympanic plate.

Hickey's View.

M. F. Hickey, in a personal communication, gives the following description:

The stylo-mandibular ligament should be called the stylo-mandibular fascia. Its lower "edge" traced inferiorly moves laterally to fuse with the fused fasciae

the pharynx, and lastly the fascia covering the prevertebral muscles. All these layers are continuous and form the fascial spaces as described, and this arrangement is conducive to the smooth working of the parts concerned.



FIGURE V.

Showing second layer of deep cervical fascia, carotid sheath, and attachment of second layer to styloid process.

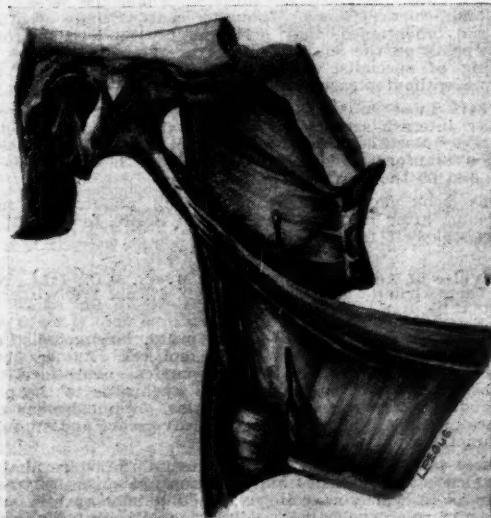


FIGURE VI.

Showing styloglossus, hyoglossus, stylopharyngeus, and superior constrictor. Probe entering the parotid capsule from capsule of submandibular (semidiagrammatic).

Conclusion.

In the capsule of the parotid gland, then, we see a very good example of design and purpose, and the harmonious working of the axial and visceral components of this region is of the utmost importance.

Acknowledgements.

I have to acknowledge with thanks Associate Professor M. F. Hickey's statement on the stylo-mandibular ligament and his dissection from which Figure II was made, and the help of Dr. J. V. Duhig, who provided the translation. My thanks are also due to Miss L. Pegasus, for the fine illustrations, for her patience in preparing alternative diagrams, and also for her help in translation, to Miss Briggs for her help with the literature and with translations, and to Miss Heineman and Miss King for much clerical assistance.

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Reports of Cases.

THE SARCOMATOUS PROSTATE.

By DANIEL LANE, M.B., F.R.C.S. (Edinburgh), F.R.C.S. (England), F.R.A.C.S.,
Brisbane.

SARCOMA of the prostate is a rare disease and only about 225 cases have been reported in the literature. I have elected to report a case of unusual nature because it presents features of interest to both surgeons and physicians.

Clinical Record.

In June, 1953, a male patient, aged seventy-two years, presented with a history of eight weeks' difficulty with micturition. He also suffered frequency of micturition, having to pass urine every two hours day and night. He had been losing considerable weight and was becoming increasingly dyspneic on exertion.

Clinical examination showed the patient to be an emaciated old man with generalized lymphadenopathy and an enlarged spleen. Rectal examination revealed an enormous smooth, firm prostate, almost occluding the rectal lumen. A presumptive diagnosis of prostatic carcinoma with metastases was made.

Some few weeks later he was admitted to St. Peter's Hospital, Chertsey, in a moribund state, and died the following day.

Post-Mortem Examination.

A post-mortem examination was performed by Dr. Charles Ross, and the relevant findings were as follows:

In the neck, firm, enlarged lymph nodes were present on both sides.

In both axillæ firm, enlarged lymph nodes were present.

In the thorax an old fibrotic tuberculous lesion was present in the lower lobe of the right lung, and hypostatic bronchopneumonia and enlarged mediastinal lymph nodes were found.

In the abdomen all the lymphoid tissue was hyperplastic, forming large masses in places. In the posterior half of the prostate there was a large, solid tumour, 10 centimetres in diameter, just beginning to ulcerate the rectal mucosa by pressure; but it was not infiltrating and was remarkably sharply divided from the relatively normal-looking anterior half. All the lymph nodes in the pelvis were neoplastic and also those in the inguinal regions. The spleen weighed 200 grammes, and showed prominent follicles. In the other viscera no relevant changes were found.

In the skeleton small, circumscribed nodules were seen in every vertebra and in the sternum. The pelvis and long bones were unaffected.

The morbid anatomical diagnosis was (i) hypostatic pneumonia and (ii) carcinoma of the prostate with lymph node and skeletal metastases.

Histological Findings.

In all the lymphoid tissue cut similar changes were found—namely, those of lymphosarcoma of predominantly lymphocytic type, but with lymphoblasts and more primitive cells of reticulum-cell structure in places. The latter were particularly common in the spleen, forming large islands of sarcomatous appearance. In the prostate there was a mass composed mainly of reticulum cells and lymphoblasts, with very few fully differentiated cells. In all cases there was an increase of reticulin fibrils, and in the prostate these fibrils surrounded individual cells and small groups.

Pathology.

Sarcoma of the prostate has been classified by Stevens and Barringer (1940) into the following four simple pathological categories: (i) myosarcoma, arising from the musculature of the prostate; (ii) lymphosarcoma, arising from lymphoid tissue in the prostate; (iii) sarcoma of undetermined origin—spindle-cell sarcoma, fibrosarcoma, myxosarcoma, reticulum-cell sarcoma, and round-cell and giant-cell sarcoma; (iv) anaplastic carcinoma, which has various features resembling sarcoma and is often mistaken microscopically for lymphosarcoma. Metastases are regional in 25% of these cases and distant in about 50%.

Clinical Features.

The case reported is probably better described as one of "lymphosarcomatosis involving the prostate". However, owing to the enormous size of the prostatic tumour, one must consider the possibility of the prostate having been the primary focus of the lymphosarcoma.

The history of prostatism was of short duration owing to the predominance of the posterior lobe enlargement.

It was surprising that there was no history of difficulty with defaecation, as the prostatic tumour had caused considerable reduction of the rectal lumen.

Sarcoma of the prostate may occur at any age, but is most frequently found in the first decade of life. The commonest presenting symptoms are those of vesical neck obstruction. Pain occurs frequently. The physical findings on examination are not characteristic.

The prostate usually feels uniformly enlarged, symmetrical, smooth, firm and not tender.

It may be difficult to distinguish between an encephaloid carcinoma, benign hypertrophy, abscesses and cysts.

Prognosis.

The prognosis is poor. The average duration of the disease is rarely more than nine months.

Treatment.

Treatment is purely palliative and is centred on deep X-ray therapy with surgical relief of the vesical neck obstruction.

Summary.

A case of lymphosarcoma involving the prostate is presented.

The possibility of a primary prostatic lymphosarcoma is considered.

Sarcoma of the prostate is briefly reviewed.

Acknowledgement.

I wish to acknowledge the considerable expert assistance given to me by my former pathological colleague, Dr. Charles Ross, of the Woking and Chertsey Group Laboratory, England.

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Reviews.

Recent Advances in Surgery. Edited by Harold C. Edwards, C.B.E., M.S., F.R.C.S., with a foreword by Heneage Ogilvie, K.B.E., M.Ch.; Fourth Edition; 1954. London: J. and A. Churchill, Limited. 8" x 5½", pp. 494, with 157 illustrations. Price: 40s.

THE production of a successful book on recent advances has seemed to be a difficult task. The author must avoid twin pitfalls, on the one hand the retelling of much often conflicting information without any proper guide as to its value, and on the other the writing of what is in effect an up-to-date text-book. The first results in a useless extension of journal writing, the latter in a book so bulky as to defeat its purpose. Harold Edwards has in this book been conspicuously successful in avoiding these pitfalls.

With the help of a group of specialist contributors, Edwards has produced a handy little volume, where information is limited to those advances of which the writer has had practical experience. Though recent writings by others are fully mentioned, they serve mainly as a basis for a short essay on the subject. However extensive may be the reading of specialist journals, no doctor could read this volume without pleasure and profit.

Where most subjects are well covered, articles of particular interest are those on cerebral surgery in mental illness by Northfield, on the treatment of malignant disease by Sir Stanford Cade, on the peripheral blood vessels by Rob, and on the heart by Holmes Sellors.

This book deserves a wide reading public, and most surgeons, after its first reading, will desire to keep it on their bookshelf for future reference.

The Voice of Neurosis. By Paul J. Moses, M.D.; 1954. New York: Grune and Stratton. 8½" x 6", pp. 136, with four text figures. Price: \$5.00.

THIS book is an attempt to help the laryngologist and the psychiatrist in their respective spheres. As Dr. Moses says, vocal dynamics are psychodynamics; neurotic misuse of the voice may irritate the vocal apparatus to the point of producing organic symptoms. Also, organic lesions may induce psychological processes that leave scars and stimulate dysfunctions.

There is a chapter on the fundamentals of voice analysis in which pitch, intensity and duration are severally treated as areas in which neurotic dysfunction may operate. The author of this psychoanalytically oriented book believes that the neurotic voice reveals typical symptoms of fixation. A highly diverting chapter entitled "Vocal Ontogenesis" shows how anxiety reveals itself in the child, and later in the adult, by insufficient coordination between respiration and phonation. The ensuing deviations in speech, setting the individual apart from the *mores* of his environment, will reflect the nature of his maladjustment. The mechanism of voice production is analysed, and to each element a discrete potentiality for the expression of emotional disturbance is accorded. Indeed, the gamut of the professions is scanned for the voices typical of each. Such stereotypes are the façades behind which are hidden the secret forces which move one towards choice of vocation.

The use of different voice registers is dealt with as an expression of conflict in identification during ego development. Hence the masculine voiced woman and the falsetto voiced man. The organ used in communication with one's fellows unavoidably registers the frustrations of neurotic adaptation. Voice becomes an expression of over-compensation. Vocally, the marks of the successfully developed ego are a harmonious balanced coordination and a relaxed operating diaphragm.

Case histories are included in which psychotherapy and voice exercises combine to effect a cure of both personality disorder and vocal disability.

In conclusion, this short but comprehensive treatise urges the laryngologist to treat the patient as a whole and not merely as the possessor of a single organ or organ group.

Operation Rangoon Jail. By Colonel K. P. MacKenzie, R.A.M.S. (Retd.), with a foreword by Brigadier J. G. Smyth, V.C., M.C., M.P.; 1954. London: Christopher Johnson. 8½" x 6", pp. 202, with 18 illustrations. Price: 15s.

THIS is the story of three and a half years in a Japanese prison camp. Its author, a regular Royal Army Medical Corps colonel, makes no claim for it as a literary work. Nor is it. It is the plain account that a rather reticent and conservative Scot might be expected to give to his friends, simply expressed and marked by understatement. Yet it is just these qualities that make the book both moving and terrible in places; for it tells without embellishment and without hysteria of the patient courage of ordinary men and of the inhuman cruelty of their captors. There are traces of anger to be found, but even these are subdued. There is much about the medical side of things, sometimes bluntly expressed, which will interest medical readers; but no amount of medical experience could make some of the details anything but sickening, as they must surely be to the layman. Opinions will differ about whether books like this should be written, but Colonel MacKenzie is in no doubt about the matter. He wants to make people think again, and in that he should succeed. There are things to admire in this book, as well as things to despise; there are even things to smile at. It is well for all of us that they should be told with such honesty and sincerity.

Review of Medical Microbiology. By Ernest Jawetz, Ph.D., M.D., Joseph L. Melnick, Ph.D., and Edward A. Adelberg, Ph.D.; 1954. Los Altos, California: Lange Medical Publications. 10" x 7", pp. 366, with 92 illustrations. Price: \$4.50.

LANGE MEDICAL PUBLICATIONS, LIMITED, of California, are issuing a "Concise Medical Library for Practitioners and Students", of which the eighth volume is a "Review of Medical Microbiology". The joint authors are Ernest Jawetz, Joseph L. Melnick and Edward A. Adelberg. It is proposed that the books shall be reviewed every two years, in order that recent advances in knowledge, diagnosis and treatment of disease shall become available early. The lag period from journal to text-book is commonly much longer than this, so that the purpose of the publishers is laudable.

The necessity for the purchase of a new edition every two years, however, calls for the lowest possible price, and the books are therefore planned for economical production. The cover is limp cardboard; the illustrations are few and in black and white; references are entirely omitted; a small list of source books and journals is placed at the end of the 354 pages. The paper is of good quality; the margins are narrow. The lines carry across the page from margin to margin and the type face is agreeably clear.

All these facts taken in combination seem to justify the production of yet another book on infectious diseases and their treatment (we suspect the authors would prefer that it should not be designated "text-book"), so having established the principles of up-to-date information, conciseness and cheapness, we can turn our attention to its substance.

Firstly and most importantly, it upholds its title and is exclusively concerned with pathogenic organisms.

The first eleven chapters give a fundamental background of morphology, physiology, biochemistry, genetics and taxonomy, and of the host-parasite relationship, resistance, immunity and antigen-antibody reactions. Principles of chemotherapy are well set out, and diagrams, underlining and tabulation are usefully employed. Chapters 12 to 19 describe the pathogenic bacteria, under the headings of morphology and identification, antigenic structure, pathogenesis, clinical findings, diagnostic tests, treatment, and epidemiology and control. These last brief sections, often

omitted from text-books, form a useful framework for later studies in public health work. The few diagrams in this section are of little use, and could well be omitted. Chapter 20 consists of a useful summary of medical mycology, and *Actinomyces bovis* is included here. Chapter 21 on the normal microbial flora of the human body occupies three pages, considerably more than in some comprehensive textbooks, and is well done.

Viruses have increased in importance so much in the past ten years that it is not surprising to find almost one-third of the volume devoted to this subject. The first chapters describe general properties, isolation and serological diagnosis, and are illustrated by a series of Professor Melnick's beautiful electron microscope pictures of the variety of virus forms. These chapters cannot be praised too much. They are admirably clear and complete at the time of writing, even to the existence and definition of the "orphan" viruses and their future significance. Groups of virus diseases are then described, arthropod borne and not arthropod borne, exanthematous, respiratory, hepatic, and miscellaneous. Chapter 35 is a comprehensive summary of bacteriophage, and there is a final table of animal diseases and those transmissible to man, and those susceptible of control.

It is the function of a review to survey faults as well as achievements, so perhaps we may suggest that, for students, the brief paragraph on serum sickness is unclear in phraseology, a fault unusual in this book, where the sections on host-parasite and drug-parasite relationships, non-specific host resistance, and antibodies command admiration for their coherence and clarity. Also in this country it is customary to use human plasma in the test for coagulase production by staphylococci, and species differences which may be elicited by the use of rabbit plasma, as recommended here, may modify the significance of the results.

After closing the book, one feels three things: satisfaction at the presentation of the subject and that it has been assembled in so suitable a form for students, surprise that it has been achieved in 354 pages with so little loss of completeness, and vague doubt that this can be repeated so well at intervals of two years.

If all the volumes in this concise medical library are comparable to this one, the Lange Medical Publications, Limited, of California, will succeed in meeting a very real need, namely, the early presentation of new knowledge to the student body with authority and speed.

Medicine in its Human Setting: Being Clinical Stories for Students, Nurses and Practitioners. By A. E. Clark-Kennedy, M.D., F.R.C.P.; 1954. London: Faber and Faber, Limited. 8" x 5½", pp. 276, with 38 illustrations. Price: 18s. 6d.

ANYONE who is familiar with the medical writings of A. E. Clark-Kennedy will not be surprised that he should have conceived the idea of a book of this type, in which he has "tried to paint into one comprehensive picture the fascination, responsibility and limitations of medical practice against the fun, frustration and tragedy with which it is associated and the sympathy, tact and self-sacrifice which it demands". His method is to take individual people suffering from one or other of the more common diseases and to tell the story of the person and his ailment against the background of everyday life. Appropriate details of aetiology, pathology, signs and symptoms, diagnosis, treatment, and prognosis are woven into the story or told as asides. The result is readable and indeed entertaining, as well as informative, and there will be few quarrels with the orthodoxy of the medical teaching given. Unfortunately, the author sometimes falls between two stools. He writes in his preface that the book is intended for anyone "who touches Medicine at any point and has its purpose seriously at heart". He suggests that it may be of interest to students, nurses, health workers, physiotherapists and other medical auxiliaries, and even practising doctors. He comments further that students may find some of the explanations too simple and nurses some too difficult; but we wonder if he really meant to do what he has done—namely, to jump from one extreme of excessively simple, even condescending writing (as when he refers to urine as water) to the other extreme of using quite difficult technical terms and phrases with no explanation at all of their meaning. It would have been more effective if he had kept consistently to the intermediate level which characterized most of the book. It is a pity also that now and then, apparently as the result of a desire to be informal, he lapses from his normally easy but impeccable English into careless phraseology and medical colloquialism. A little critical sub-editing for a second edition would be a good thing, as this

is in general a most acceptable little book. Nurses will probably enjoy it, and it can be heartily recommended to medical students and even young graduates, if they are interested in bringing perspective and humanity to their medical thinking and can suppress their scorn at the more elementary information given. The writing is never dull, and the illustrations by Sylvia Tredgold are delightful.

Babcock's Principles and Practice of Surgery. Edited by Karl C. Jonas, B.S., M.D., M.S. (Surg.), F.A.C.S., F.L.C.S.; 1954. Philadelphia: Lea and Febiger. Sydney: Angus and Robertson, Limited. 10" x 7", pp. 1644, with 1016 illustrations, 10 in colour. Price: £9 13s. 6d.

"BABCOCK'S PRINCIPLES AND PRACTICE OF SURGERY", first published in 1944, has now been revised and edited by K. C. Jonas. The book is intended primarily for the medical student and the editor has been aided by fifty-six other active teachers in surgery and the allied sciences.

All aspects of modern surgery are discussed and illustrated in a most efficient manner and there is little to criticize.

In the chapter on anaesthesia, the difference between contemporary American and British practice is well shown, for in this book there is a disproportionate discussion on spinal and regional anaesthesia, whereas gaseous anaesthesia and the relaxants are relegated to a few short paragraphs only.

This encyclopaedic surgical tome, for such it is, is far too elaborate to be a standard text-book for the average medical student. Rather will it find a place as a reference book in the library of the surgeon—probably not an Australian surgeon because its price of £9 13s. 6d. will not allow of competition here with the standard British surgical text-book of equal value.

Legal Medicine: Pathology and Toxicology. By Thomas A. Gonzales, M.D., Morgan Vance, M.D., Milton Helpern, M.D., and Charles J. Umberger, Ph.D., with an introduction by Harrison S. Martland; Second Edition: 1954. New York: Appleton-Century-Crofts, Incorporated. 10" x 7", pp. 1362, with 503 illustrations. Price: \$22.00.

This is an important volume. It deals extensively with the usual subjects covered by text-books of forensic medicine. In this edition the method of presentation of the material is still based on the division of the subject into legal medicine and toxicology. New matter has been introduced into the book, such as the autopsy findings in embalmed bodies, contusions of the heart, traumatic cerebral oedema, injuries incurred in sport, Rh-Hr blood groups, operative and post-operative deaths, and in the toxicology section, the more recent organic drugs, uranium compounds *et cetera*.

It is most essential that a medico-legal expert should have a thorough knowledge of medico-legal pathology. Much of the text in this book is devoted to a description and discussion of this subject. The chapters on blunt force injuries are excellent. Numerous illustrative cases are cited by the authors, and it is obvious that they write with a vast practical experience behind them. The occasional pathologist, the expert, and the lawyer, will find a great deal of useful material in the pages of this book as a work of reference.

In dealing with identification of human remains, we are told that, if only partial remains of a body are available, it may be possible to guess the height and weight of the deceased from measurements of the fragments. Surely there is no place for guess work. Pearson's formulae are included for estimation of height. Experience shows that these tables may lead the investigator sadly astray, and the authors correctly stress that none of these formulae can be relied upon implicitly. There should be clear warnings of the pitfalls likely to be encountered in medico-legal work by the writers of the standard text-books.

In the section on diseases of the lungs, little attention is paid to acute pulmonary oedema. Sometimes it is virtually the only macroscopic lesion seen at autopsy and its importance warrants discussion. Similarly in dealing with natural causes of asphyxia, it is also worthy of mention.

The discussion on diseases of children, though brief, is up to date. This forms such an important part of medico-legal practice and is so difficult that the pathology is worthy of a more prominent place than it occupies in most works of reference.

There is a good discussion on shock. In connexion with fat embolism, the text states that some believe that fat may be transformed [sic] through a patent foramen ovale from the right into the left side of the heart.

Surface lacerations of the brain are classified as direct lacerations and as contre-coup lacerations. Contre-coup lacerations, the text states, occur on the opposite side of the brain, usually directly across from the area of impact and fracture, the force causing the brain to oscillate and strike against the opposite side of the skull. In oblique falls or blows on the back of the head, it is true that the maximum damage is contre-coup in position, but in a fall straight back onto one side of the head or in the case of a blow falling straight on the back of the head to one side of the mid-line, the damage will be found mostly confined to the same side subfrontally and subtemporally. This has not been discussed. The brain injuries demonstrated in Figure 12-7 would seem to indicate that there was a fracture of the left occipital bone and not a fracture of the right occipital bone as the authors state.

No figures are quoted as a guide for the less experienced pathologist in connexion with the biochemical tests for drowning. This would be of value. From the research and experimental point of view the work of H. G. Swann and his colleagues might have been included in the list of references at the end of that section.

In the part of the book devoted to toxicology, the signs and symptoms of most of the usual poisonous substances met with in practice are clearly defined and details of the methods of analysis have been included. Due stress is laid on the significance of alcohol in medico-legal work throughout the book and the section devoted to alcohol is comprehensive and first class. On page 741, the fatal dose of inorganic arsenic is stated as three grammes, approximately 200 grains. It should be!

The law as it affects the practitioner together with his responsibilities is set out, but it is the law as it applies, for example, to the practitioner in New York City. More is required of a doctor in reporting cases to the police authorities than is required, for example, in this country.

There are references to various authorities at the end of each chapter and the text has been clarified by numerous illustrations. Most of these are very good, but some of them fail to show clearly what is intended. The illustrations are numbered according to the particular chapter to which they belong. The legend accompanying Figure 16-49 needs attention, as do also "hypothalmic", "Holgar Nielsen" and "Jacksonian".

In spite of these comments, this is a work of great value in its field, well produced and possessing the virtue that it is very easy to read.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"The Digestive Tract in Roentgenology", by Jacob Buckstein, M.D.; Second Edition; 1953. Philadelphia: J. B. Lippincott Company. Sydney: Angus and Robertson, Limited. Volume I: "Introduction, the Hypopharynx and the Esophagus, the Stomach, the Duodenum." 10" x 7", pp. 446, with 422 illustrations. Price: £13 8s. 6d. (two volumes).

The author states that in this edition he included additional material in order to try to bring the "rapidly expanding literature" up to date.

"Human Physiology", by Bernardo A. Houssay, M.D., Juan T. Lewis, M.D., Oscar Orías, M.D., Eduardo Braun-Menéndez, M.D., Enrique Hug, M.D., Virgilio G. Fogila, M.D., and Luis F. Leioir, M.D., with a foreword by Herbert M. Evans, M.D.; Second Edition; 1955. New York: McGraw-Hill Book Company, Incorporated. 10" x 7", pp. 1184, with 504 illustrations. Price: \$12.00.

The first edition was published in 1951.

"La Pensée Morale en Médecine: Premiers Principes d'une Éthique Médicale", by W. Riese, M.D., with a preface by Henri Baruk; 1954. Paris: Presses Universitaires de France. 9" x 6", pp. 94. Price: 420 francs.

Published in the Bibliothèque de philosophie contemporaine.

"Bedwetting", by Portia Holman, M.A., M.D. (Cantab.), M.R.C.P., D.F.M. (London); 1954. London: Delisie. 7" x 5", pp. 40. Price: 8s. 6d.

Delisie is "a specialist organization in the field of sex education, marriage and the family".

The Medical Journal of Australia

SATURDAY, APRIL 16, 1955.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of the article. The abbreviations used for the titles of journals are those adopted by the Quarterly Cumulative Index Medicus. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

REALISM IN BIOGRAPHY.

"In lapidary inscriptions a man is not upon oath", said Samuel Johnson; the same aphorism may be applied to the writer of a biography when the subject is or was a friend of the writer. When a man of distinction dies the task of producing a biography is allotted to one who not only is a capable author but also has had excellent opportunities of observing the deceased in his active life and further remains in sympathy with his opinions and aims. To quote Samuel Johnson again: "Nobody can write the life of a man but those who have eat and drunk and lived in social intercourse with him." Such a biography cannot fail to be biased in favour of the person depicted; moreover, certain reticences are forced upon the author not only because of his loyalty but also on account of the possible pain given to surviving relatives and close associates. Often fear of a libel action is operative in suppressing certain statements; for example, the death of Lord Alfred Douglas released a sequence of disclosures regarding the unfortunate friendship with Oscar Wilde which could not be published whilst Douglas was alive. William Ewart Gladstone and John Morley were poles asunder in religious conviction, but in politics and literature there was a deep intimacy between them and Morley was naturally chosen to write what is really a fine biography though the partisanship is obvious—its hero can do no wrong. Some of the omissions were forced upon Morley by the necessity of respecting the living, but there are others arising from

a too indulgent judgement. Samuel Johnson's interest, when young, in women of the street was described by his biographer Boswell as of sensual origin, and for this admission Boswell came in for considerable contemporary abuse; Gladstone's interest in more mature life in the same "unfortunate females" was claimed by him to be based on pure philanthropy and probably was, though indiscreet, but on this aspect of Gladstone's actions Morley does not touch. The friendly biographer may try, but he cannot avoid being an advocate. Nevertheless a contemporary portrait is indispensable for posterity; there are touches which bring the subject of the biography vividly before the reader; the "local colour" is pronounced and the subject of the work is not a dead body prepared for dissection but a very living human being. The advice has been given to the student of history interested in any particular period to begin his study with eyewitnesses' accounts and then to take up the latest publication displaying scholarship and detachment from personal bias. The nearer the period the more difficult it is for the historian and biographer to steer a middle course; also, be it remembered, the greater the man, the less easy it is to portray his life impartially. Carlyle achieved a remarkable success in making the English reading public more open-minded in its estimate of Cromwell, though violent abuse still lingers in certain publications; to combat this a Cromwell Association has been founded which presents the favourable aspects of the great Protector. Every few years there appears a book designed to picture Napoleon as a man of mediocre attainments, but the stature of Napoleon remains undiminished, indeed it may be affirmed that it is greater now than one hundred years ago.

Uncritical adulation is sure to evoke a reaction marked by supercritical denigration. Each is artistically and historically wrong. As Hesketh Pearson has remarked in his life of Thomas Paine, "the daub of hagiography is no less a blemish than the smudge of iconoclasm". When a man of note has held an established reputation and has been regarded as a popular hero any belittlement of his status stirs up a hostile reaction. Wordsworth was regarded as a man of quite episcopal continence, so it came as a shock to his admirers when it was shown that he had had an affair with a French girl in his youth and fathered an illegitimate daughter; however, the evidence was convincing, and protests were silenced. Byron, though ostracized in one of England's recurring fits of morality, became the most idolized poet of the day. When in 1879 Mrs. Beecher Stowe published a book "Lady Byron Vindicated", in which she announced to the world that the poet had been guilty of incestuous relations with his half-sister, Mrs. Leigh, a storm of indignation burst over the head of the American authoress and the popularity she had acquired by her "Uncle Tom's Cabin" fell to zero. Now we know that the charge was perfectly true, but it was not the only factor in causing Lady Byron to refuse to rejoin her husband. No doubt Mrs. Charles Dickens was a bit of a trial to the great novelist through her poor mentality, but she bore him ten children. When in recent years the character of Dickens was assailed there arose much angry protest, but once more the truth was great and prevailed.

The conditions mentioned bring up the old and difficult question how far a man's character should be taken into account in assessing the value of his creative work. This problem has not been solved and probably will never be solved. If a man of action has been a dynamic personality in statesmanship and has benefited his country, are his minor errors and his human frailties to be admitted or overlooked? If a man of letters has given delight to thousands of readers and is likely to give delight to many thousands in the future, are we to keep in mind that he basely deserted his wife or that he was dissolute or dishonest? If a man of science, including medical science, gains high eminence, especially as an organizer, are we to forget that he was a "careerist" resorting to much window dressing and wire pulling and snubbing younger men of whose growing fame he was jealous? The answer to such questions probably is that a contemporary biographer should be allowed free expression of his genuine and reasonable feelings of admiration and affection, but that when sufficient time has elapsed for petty prejudices to die and for the making of a dispassionate survey, a scholarly analysis should be undertaken with one only aim in view, the presentation of the truth.

Current Comment.

BRAIN MECHANISMS AND CONSCIOUSNESS.

"BRAIN MECHANISMS AND CONSCIOUSNESS" was the subject of a symposium organized by the Council for International Organizations of Medical Sciences held in 1953 to which some twenty workers in neuroanatomy, neurophysiology, psychology and psychiatry contributed papers.¹ After a review of current thought concerning the functions of the brain stem, reticular system and other basal structures, discussion moved on to the definition of consciousness and the relationship between mental and physiological activities. In the first paper, H. W. Magoun discussed his researches on electrical stimulation of the brain stem reticular substance, which, he found, induced changes in the electroencephalogram similar to those occurring in awakening from sleep or in becoming attentive. G. Moruzzi then reported on his microelectrode analysis of reticular mechanisms, the activation which he elicited being similar to that which results from "startling" sensory stimulations.

Other papers dealt with the cytoarchitecture of the reticular formation in man, the diencephalic sleep centre, neurophysiological problems of sleep, and the action of anaesthetics on the nervous system. A. E. Fessard opened discussion on mental and neurophysiological relationships with an important paper on nervous integration and conscious experience in which he argued for experienced integration (E.I.) as the essential feature of consciousness, while other mental integrations may be unconscious or inexperienced. After discussing patterns of reaction and evidence for and against "brain-as-a-whole" versus more or less localized activities as a neural basis for consciousness, he concluded his paper with the suggestion either that the deepest source of consciousness may reside at molecular levels or that consciousness may be conceived as a "pure product of complication". E. D. Adrian contributed a concise and clear paper on the physiological

basis of perception with special reference to evidence for patterns of sensory impulses contributing to the perception of specific odours. Afferent messages may, however, be blocked on their passage to consciousness. Are these barriers in the cortex, the brain-stem or elsewhere? K. S. Lashley postulated self-awareness and the ability to distinguish between self and object as the essence of consciousness and urged that investigation should cover all modulations between full consciousness and its apparent absence including their anatomical and physiological substrates.

As for conclusions, the words of the late Sir Charles Sherrington, delivered in a broadcast in 1950, may be applied to this symposium: "Aristotle, 2,000 years ago, was asking how is the mind attached to the body. We are asking that question still." But that is not to say that the papers and discussions, reported in full, do not repay close study. While many questions are left unanswered, there are also many pointers to promising lines of research.

COELIAC DISEASE.

IN 1952, Charlotte M. Anderson *et alii*, following up some important Dutch work carried out in the previous couple of years, reported the striking effects obtained in the treatment of celiac disease by the exclusion of gluten from the diet of children.² Rapid clinical improvement occurred with a parallel increase in fat absorption. Children in a state of remission after exclusion of wheat from their diet were found to relapse when given wheat gluten. This work related more particularly to children suffering from the disease in its active phase. J. W. Gerrard, Constance A. C. Ross and J. M. Smellie³ have now taken the investigation a step further by studying the effect of a gluten-free wheat diet on children in the later stages of the disease when the condition has become more or less latent. They refer to another study in which they reinvestigated 32 children and adolescents who had been diagnosed as having celiac disease in early childhood and had not been treated with gluten-free wheat. None of them was completely free from symptoms, but the symptoms were usually milder than in the initial stage. Steatorrhœa, stunted growth and anaemia were the commonest residual clinical findings. They now report the response of these older children to late treatment with a diet free from wheat gluten. It was found that during periods of from four to twenty-five months, during which the gluten-free diet was used, there was a striking acceleration of growth in weight and height accompanied by disappearance of steatorrhœa. Therefore, as they point out, it is evident that this diet is effective not only in the active phase of celiac disease which is usually met with in early childhood, but also in the latent or quiescent phase which is more commonly found in later childhood. They also point out that the increased rate of growth observed in this present study underlines the importance of keeping these children on this diet at least until active growth and development have ceased. In some cases it may even be necessary to maintain the diet into adult life, in view of the finding by other investigators that many adults suffering from idiopathic steatorrhœa have a history of celiac disease in childhood. Gerrard, Ross and Smellie suggest that the increased rate of growth of patients receiving the gluten-free wheat diet may have been partially due to increased caloric intake associated with an improvement in appetite. However, this is not the sole reason for the increased rate of growth, as there was a concomitant reduction in the output of fat in the faeces, indicating an improvement in absorption of fat. In this regard it should be noted that Anderson and her colleagues in the paper previously referred to produced good evidence that there is a return of gastro-intestinal function to a more normal state when the gluten-free diet is used.

¹ "Brain Mechanisms and Consciousness: A Symposium Organized by the Council for International Organizations of Medical Sciences, Established under the Joint Auspices of UNESCO and WHO"; consulting editors, Edgar D. Adrian (U.K.), Frederic Bremer (Belgium) and Herbert H. Jasper (Canada), editor for the Council, J. F. Delafresnaye, C.I.O.M.S. (Paris); 1954. Oxford: Blackwell Scientific Publications. 9" x 6", pp. 572, with 114 illustrations. Price: 42s.

² *Lancet*, April 26, 1952.

³ *Lancet*, March 19, 1955.

During their investigation, Gerrard, Ross and Smellie observed two children whose symptoms of celiac disease dated from the neonatal period—that is, before they had begun to ingest wheat-containing foods. Although these two children had normal pancreatic function associated with steatorrhœa, they did not respond to a gluten-free wheat diet. The early onset and the lack of response to the diet make it probable that in these two cases the aetiology was different, and this requires separate study. However, these exceptions apart, the present study added to the previously reported work shows that a diet free from wheat gluten is beneficial in patients in both the active and the latent phases of celiac disease.

SAINT-SIMON AND A DIPLOMATIC CONSULTATION.

In the issue of February 5, 1955, we drew attention to an incident in the life of the Duc de Saint-Simon, related by A. Jobard, in which that famous writer of memoirs played the role of patient. Jobard¹ now gives an account of an occasion on which Saint-Simon was obliged, most unwillingly, to assume the role of consultant, although he had no official medical qualifications. In 1722, shortly after the conclusion of hostilities with Spain, a Princess of Orleans, daughter of the Regent, was promised in marriage to the Prince of the Asturias, son of Philip V and his first wife. In return an Infanta was promised to Louis XV, who had acceded to the throne of France at the age of five years on the death of his great-grandfather, Louis XIV, in 1710. To Saint-Simon was allotted the delicate task of accompanying the Princess to Madrid in the capacity of Ambassador Extraordinary. The royal pair were married at the frontier. Towards the end of the long journey from Paris to Madrid, the Princess of the Asturias found herself indisposed; red patches appeared on her face which were soon recognized as erysipelas, and she had a slight fever. There was nothing serious; and yet the King and Queen were much disturbed. Saint-Simon tried to reassure them by pointing out that as the Princess had in her childhood had measles and chickenpox (two diseases much feared at that time), her present illness could not be very serious. In spite of this reassurance the anxiety of the King and Queen persisted, and Saint-Simon was ordered to visit the royal patient. Nothing could have been less to his liking, for he was aware that such a visit was entirely opposed to Spanish custom; no man, however close a relative, ever saw a woman in bed. However, after three days of hedging, Saint-Simon had to give way to the insistence of the King and Queen. His observations were as follows:

The erysipelas seemed to me very extensive and very inflamed. The ladies-in-waiting told me that it had reached the throat and neck, and that the fever, although slight, was still present. They made me look with a candle, in spite of everything that I could say to avoid doing so. They told me the treatment and the remedies that were being employed.

Having concluded his examination, Saint-Simon returned to the King and Queen and gave them his opinion. At that stage Philip V could contain himself no longer, and gave voice to his suspicion: Saint-Simon had not observed everything—there were two very swollen glands in the patient's throat, and they did not know what to make of them. The bad reputation of the Regent of France and his openly dissolute conduct made the Spanish monarchs fear that he might have transmitted syphilis to his daughter. Saint-Simon protested with all his might against such a suspicion; he affirmed his intimate friendship with the Duke and Duchess of Orleans, and pledged himself as guarantor of their health and of that of their children. But Philip, thoroughly worried, abandoned that fear for another—the fear that the Princess's illness was tuberculosis in the early stages. (His first wife, sister of the Duchess of Burgundy, had died of tuberculosis after having had tuberculous adenitis.) Once more Saint-Simon denied the possibility, stating firmly that there was no

tuberculosis in the Orleans family. He told the royal parents-in-law that "there was every reason to believe that the glands were swollen only from the humour of the erysipelas which was so close to them, and not to doubt that they would subside with the cause which had made them swell". That is precisely what happened; Saint-Simon had made a good diagnosis and a skilful prognosis, and had extricated himself with credit from this dangerous offshoot of his mission. Always outspoken (he had constantly written disparagingly of Louis XIV), he wrote as follows to his master and friend, the Regent:

It is a fact that all the blood taken from her is foul. . . . I must tell Your Royal Highness everything. This blood is such that I believed it my duty to anticipate the causes for anxiety which they might have found it embarrassing to tell me. The assurance I gave them about your health and that of the Duchess of Orleans, which in these matters depends on yours, was accepted without difficulty, and even with compliments about Your Royal Highness; you will, I am sure, pardon me if I point out that you have not always deserved them from this point of view.

As we have seen previously, Saint-Simon was on friendly terms with Maréchal, chief surgeon to the King, with Fagan, chief physician to the King, and with Chirac, chief physician to the Regent. Jobard remarks that, as Saint-Simon was highly intelligent and keenly observant, these medical connexions probably gave him an opportunity to learn a little of the medical art, which was of considerable help to him in his delicate task at the court of Philip of Spain.

ADOPTION OF THE NEWBORN CHILD.

To adopt a newborn baby always seems to be so simple and sensible. If its mother is unable or unwilling to keep it, it is surely kinder if she never sees it; and its adoptive parents will have it from the start, just as if it were their own. But A. White Franklin² and the Honourable Mrs. Geoffrey Edwards,³ in a discussion on adoption, do not agree; they both emphasize the fact that almost always the decision to offer the child for adoption is made by its mother while she is in a state of panic, and they believe this to be unfair to both mother and child. Usually the child is illegitimate, and the mother's problems are immediate and distressing; she is without the support of the child's father or of her own family, and so she turns to her medical attendant or to the hospital almoner for advice and help. Such an intermediary always knows of suitable people who have been thoroughly investigated and are obviously satisfactory, and who can give the child every advantage. On the other hand, the mother is, *ipso facto*, not so obviously satisfactory, and is unlikely to be able to care for her child so well, or to give it many advantages. So the adoption is arranged, and the most important party to it, the only one whose welfare really matters, the child, is disposed of for reasons not directly connected with his welfare. The best kind of adoption is when people adopt a child for the child's sake—they come across a deprived child and adopt it in order to give it what it lacks. People who are willing to adopt a baby with only a proviso that it shall appear to be quite healthy, usually have some purpose of their own to be fulfilled, and in taking a newborn baby they cannot have any means of deciding whether it may be suitable for the purpose in view. So if the child does not prove to be handsome and talented, they may unjustly blame it for letting them down; if it does not pull the unhappy marriage together, or does not make a docile companion for the lonely and spoilt only child, or cannot compete with the idealized stillborn baby whom it replaced, or does not take the indulged, neurotic wife out of herself, then its last state may be far worse than its first. Meanwhile, its mother finds herself in the position of having, while in a state of worry and fear which interfered with

¹ Presse méd., January 22, 1955.

² Proc. Roy. Soc. Med., December, 1954.

³ Ibidem.

her judgement, given away the baby she never saw to people she never saw; and her motive was primarily her own welfare and convenience, not her baby's. So she will worry and perhaps change her mind, again in a panic. Both Edwards and Franklin insist that the antenatal time is the wrong time for the mother to make her decision (and, after all, she is the natural person to decide), in that she cannot then divine what her feelings and opinions are likely to be after her baby is born; they insist that she must be given some time in a neutral atmosphere after the birth of her child in which to come to her decision calmly. It has been said that it is cruel to allow the mother to have her child with her for several weeks and to allow her to become attached to it when she knows that she will have to part from it eventually. Even if it is of benefit to the child to be nursed and loved by its own mother during this time, the strain on the mother would be all the greater; but often during this period, under the stimulus of fixed, objective love for her child, the mother plans more calmly and with more determination, or her stern parents relent when faced with a *fait accompli*, and she finally finds ways of keeping her child and maintaining it satisfactorily. If she cannot do this, at least she will have the consolation of knowing that her decision to part with her child was calmly deliberated, soundly based, and wisely executed, and was undertaken solely for the benefit of the child itself. In Great Britain, the National Council for the Unmarried Mother and her Child makes every effort to secure for the mother this essential breathing space, and many adoption societies are now revising their attitude to conform with this policy.

MYOCARDIAL INFARCTION AND ANTICOAGULANTS.

CLINICAL TRIAL of some definitive or specific therapy for a disease of variable severity and course is difficult enough, but the evaluation of any measure to combat a complication of such a malady presents obstacles of major proportions. Nevertheless, if enough enthusiasm, energy and patience are forthcoming, coupled with absolute faith in statistics, something worth while can be accomplished. After perusing the 650 page report, entitled "Myocardial Infarction", of the Consecutive Committees on Anticoagulants of the American Heart Association, 1946-1954,¹ the reader will readily agree that the conditions mentioned above have been amply fulfilled in respect to the question of the value of anticoagulants in myocardial infarction. To report adequately the detail and care, as well as the industry portrayed, in this inquiry would require very considerable journal space. In the course of this study, a large mass of data has been accumulated, relating not only to anticoagulants but also to myocardial infarction, both as a pathological process and as a clinical syndrome. The report is therefore of great value as a reference work on this disease and on the technique of using anticoagulants in general.

It is obvious that from the outset the committees concerned realized the inherent difficulties before them, and especial consideration has been afforded to all factors which might produce bias and lead to serious criticism. Thus it was agreed that at least 1000 patients should be studied, and that all should be treated similarly except that one-half would also receive anticoagulant therapy. Sixteen hospitals participated, criteria were laid down for a uniform diagnosis, and the decision as to whether a patient should form part of the "treated" or part of the "control" group was left entirely to the approved local physicians, although it was suggested that this should in general depend upon whether the patient was admitted on an odd or an even day of the month. This plan produced statistically equivalent groups in point of numbers. Patients who had died within twenty-four hours of admission to hospital were omitted from the study. Each patient

was followed for six weeks. Each patient was treated by the same anticoagulant technique, and clotting and prothrombin times were determined daily by the same methods. Full descriptions were made available to the Central Committee of all thrombo-embolic and hemorrhagic complications, whether these were observed in life or at autopsy. The total control group numbered 442 patients and the total treated group 589 patients. The average age of all patients was sixty years (males fifty-eight, females sixty-four). Seventy-six per centum were men, and 24% were women—only 3.5% were Negroes. The average age of both "treated" and "control" groups was approximately the same.

The report includes a detailed analysis of the general characteristics of the sample in respect to sex (males 76.5%, females 23.5%), age (very little discrepancy in treatment groups), race (3.5% Negro) and body weight (no relation found between weight and coronary thrombosis). The past medical history was investigated carefully for conditions which might accent or modify coronary disease. This section of the report sheds light on certain classical beliefs, usually copied from one text-book to another. *Angina pectoris* preceded coronary thrombosis in approximately one-half of each group, treated and untreated. The relatively high incidence of pre-existing coronary disease in the younger patients was striking. Of the whole sample 41% were classed as having shown previous hypertension. This is generally less than in previously reported series. Pre-existing hypertension was almost twice as frequent in the women as it was in the men. Hypertension was relatively uncommon in the younger patients. No difference existed in the two groups in respect to any hemorrhagic tendency. Eleven per centum were diabetic. The authors are at constant pains to point out that this sample consists of hospitalized patients and therefore excludes very mild cases and those that were immediately fatal. Two valuable chapters on the clinical aspects of the sample and its subdivision constitute an excellent review of this facet of coronary thrombosis, so that the report will no doubt be often referred to by future investigators of the bedside aspects of this disease, irrespective of the anticoagulant problem. Every symptom and sign has been fully analysed, correlated with age, and given its true prognostic significance, both singly and as part of a syndrome. The validity of the electrocardiographic diagnosis was established on patients who came to autopsy in 98% of such cases.

The report, having established that the two groups treated and untreated by anticoagulants were essentially comparable, then proceeds to prove that their management was also similar in all respects other than anticoagulant treatment. This section covers types of hospital service, nursing care, medicinal therapy, diet, sodium restriction *et cetera*. All patients were kept strictly in bed.

Finally, in regard to the anticoagulants used, 81% of patients received dicoumarol only, 18% received dicoumarol and heparin, and 3% were given heparin only. One hundred and fifteen or 26% of the 442 patients in the control group developed one or more thrombo-embolic complications during the six weeks' period of observation, while only 64 or 10.9% of the treated group were similarly affected. The authors claim that the chances of a patient developing one or more thrombo-embolic complications were roughly one in four among the controls and one in ten among the treated. The peak incidence of this complication occurred during the second week of the illness. The authors recommend that anticoagulant therapy be continued for at least four weeks after the attack and for a similar period after a thrombotic complication, that long-term anticoagulant therapy should be especially considered for patients who have sustained repeated infarction, and that it is especially needed by older persons. The findings do not support a clinical policy of confining anticoagulant therapy to patients appearing severely ill at onset. The authors maintain that a rigid classification of patients into "good risk" and "bad risk" groups is both difficult and dangerous. Their figures appear to show that prompt anticoagulant protection is particularly indicated when auricular fibrillation appears.

¹ "Myocardial Infarction: Its Clinical Manifestations and Treatment with Anticoagulants: A Study of 1021 Cases", by Irving S. Wright, M.D., Charles D. Marple, M.D., and Dorothy Fahs Beck, Ph.D.; 1954. New York: Grune and Stratton. 10" x 7", pp. 674, with 202 text figures. Price: \$8.50.

A total of 41.8 thrombo-embolic complications were diagnosed per one hundred control patients. This is inevitably less than is seen at autopsy. Less than one-third as many complications per hundred patients developed in the treated as in the control group. Thrombo-embolic complications reached their peak during the second week after the coronary attack.

A thorough examination was made of bleeding in both groups, the limitations restricting the use of anticoagulants are fully defined, and the incidence and type of bleeding in some untreated patients with myocardial infarction are explored in the present series and in the literature. It is made clear that bleeding is more frequent under anticoagulants. Severe bleeding occurred in 1.3% of the treated group. Some evidence of bleeding was observed in 5.2% of the control group and in 12.9% of the treated group. In only 7% of these episodes was the bleeding classed as severe. In the treated group only 16% of the subjects died, compared with 23.4% in the control group, and this difference was largely accounted for by reduction in the number of patients dying after a thrombo-embolic complication. The vexed question of prothrombin time as a measure of anticoagulation effect is fully dealt with, and it is admitted that the levels obtained in the study from many hospitals were often suboptimal.

Further sections deal in detail with autopsy findings, which were examined in 48% of the entire series. Anticoagulant therapy was associated with a conspicuous reduction in the prevalence of mural thrombi at autopsy. Only one-eighth of all thrombo-embolic complications found at autopsy were diagnosed clinically.

Appendices to the report include a comparative evaluation of "Tromexan" and dicumarol in treatment (when results varied little), recommendations on the use of anticoagulants, a synopsis of each patient in the series and 267 references.

It is obvious that any review of such a detailed report must either do it injustice by omitting all statistics or include the major numerical findings at length. The volume of hard work and rather intense consideration which is evident on every page imposes a limit on the extent to which exploration of such a many-sided question can go. We would warmly congratulate the Committee on Anticoagulants of the American Heart Association, and in particular I. S. Wright, G. D. Marple and D. F. Beck, on their industry and the clarity of their description, and on providing, apart from an answer to the major problem, an excellent treatise on the clinical, post-mortem and prognostic aspects of myocardial infarction itself. Anyone disputing these results must devote a similar time and effort to establish the opposite point of view, a formidable prospect for one individual. It appears that we should accept the anticoagulants as an integral part of the hospital treatment of any types of myocardial infarction.

THE CAUSES AND MANAGEMENT OF MOTION SICKNESS.

If there can be anything of comfort for inveterate sufferers from motion sickness, they may find it in the dictum of Leslie N. Gay,¹ who, in "Labyrinthine Factors in Motion Sickness" as part of a symposium, states that "results of controlled studies indicate no psychologic factors of importance in the etiology of motion sickness". True, Robert S. Schwab² in "The Nonlabyrinthine Causes of Motion Sickness" discusses psychogenic causes including "all sorts of anticipatory feelings dealing with the various aspects of travel as well as true conditioning from previous experiences of being ill from motion", but his few examples all seem to have a neurotic background. On the other hand, Félix Martí-Ibáñez in "Philosophical Perspectives of Motion Sickness" quotes de Wit as having observed nausea due to motion in monkeys, dogs, seals and parrots. All in all, the rest of this symposium offers complete justification for the immediate heaving overboard of

those offensively hearty individuals who will insist on proclaiming loudly, at wrong moments, that sea-sickness is "all in the mind". In addition to psychic and emotional causes, Schwab lists olfactory and visual stimuli and a miscellaneous group consisting of menstruation, duodenal ulcer and the aggravating effects of over-indulgence before travel as factors to be considered in plans for preventing motion sickness. Martí-Ibáñez sums up motion sickness as occurring when there are disturbances of the vestibular function along with kinesthetic and psychological alterations, and as having a common denominator of exposure to angular, linear or radial acceleration; small accelerations with longer pauses between are the most potent. From another aspect W. H. Johnson, in "Head Movements and Motion Sickness", shows that if the body is in motion in space and the head is moved in relation to the body—for instance, rotated through an angle of 90°—variations in the movements of the labyrinthine endolymph are caused which may, if fast enough, cause nausea. This led to experiments in which men and dogs were exposed to motion, first with their heads free to move and then with their heads fixed in rests. Analysis of the results indicated that immobilization of passengers' heads in aircraft would reduce airsickness by 60% to 83%, depending on the degree of turbulence met with. A. A. J. van Egmond, J. J. Groen and G. de Wit³ in "The Selection of Motion Sickness-Susceptible Individuals" show that by using turning tests they can identify in advance persons who will be seasick; they can even sort out some 20% of all seasick-prone persons who are sea-sick because of previous concussion or severe dietary deficiency. In "Passenger Comfort in Commercial Air Travel with Reference to Motion Sickness", Ludwig G. Lederer and George J. Kidera⁴ discuss a survey of the effects of seating-places in an aircraft. They showed that passengers occupying the left-hand window seats, especially those just behind the trailing edge of the wing, suffered air-sickness most frequently. In these seats, the passenger is subjected to a quick scanning type of view which induces a nystagmic effect which probably initiates a form of vestibular excitation. Since the captain of an aircraft sits on the left side of the cockpit, his visibility is greater on that side, and most banks and turns are made to the left, thereby exposing the passengers at the left-hand windows to more visual stimuli than those at the right. The larger the aircraft the steadier it is. When flying in the evening or at night the aircraft usually encounters less turbulence than during the day. Motion sickness remedies were found to be much more effective when taken prophylactically than when taken after premonitory symptoms had appeared. It would seem then, that susceptibility to motion sickness is inherent in certain persons and that such persons can be helped by taking suitable motion sickness remedies; various authors recommend various drugs, of which cyclizine hydrochloride, prophenyridamine, meclizine hydrochloride and dimenhydrinate appear to be the most satisfactory, but it is probable that the individual sufferer will find that one of these is more suited to his own special requirements than another, since each seems to have its own varying range of effects. In these days, air-sickness is probably the form of motion sickness to which most people are most frequently exposed. From the above data the following suggestions to travellers who are prone to air-sickness might be offered: (i) Choose the largest aircraft on the run. (ii) Choose to travel in the evening and night if possible. (iii) If you are a woman, avoid travelling during the time of your menstrual period. (iv) Avoid hectic send-off parties. (v) Ask for an inboard seat, or if window seat must be taken, ask for one well forward or well aft, on the starboard side in preference to the port side. (vi) Take a travel sickness remedy before embarking (this is especially important to people with cardiac or gastro-duodenal conditions which might be aggravated by much vomiting). (vii) Recline as far as the seat will allow, rest the head and wedge it comfortably with a small pillow; move the head as little as possible and then only very slowly. To these might be added, as a wise general precaution: (viii) Eat sparingly and selectively of the meals and snacks offered during the flight.

Abstracts from Medical Literature.

THERAPEUTICS.

Respiratory Tract Infections.

M. S. BISKIND AND W. C. MARTIN (*Am. J. Digest. Dis.*, July, 1954) describe the use of citrus flavinoids in the treatment of patients with respiratory tract infections. A capsule containing 100 milligrammes of citrus flavinoids and 100 milligrammes of ascorbic acid was given to patients suffering from tonsillitis, rhinitis, tracheitis and other upper respiratory tract infections. One capsule three times daily was administered in 22 cases. The authors state that the effects were dramatic. The patients responded rapidly, and recovery was the rule within one to three days. A dose of two capsules thrice daily was even more effective in some cases.

Tuberculosis Treated with ACTH and Antibiotics.

C. Sons *et alii* (*Rev. tuberc.*, No. 6, 1954) have treated patients suffering from acute tuberculous disease of the serous membranes, and others suffering from various kinds of tuberculous pleural effusion with or without involvement of the underlying lung, with ACTH in association with streptomycin and other antibacterial drugs. They state that the commonly held notion that ACTH and cortisone are harmful in the presence of tuberculous disease is one that must be completely revised. The results of treatment, especially in the more acute cases, was very good, and it seemed that the ACTH potentiated the effect of the other drugs. The ACTH was given daily in a dose of 10 milligrammes in a slow intravenous drip of 500 millilitres of glucose and serum.

"Serpasil" in the Treatment of Hypertension.

WARNAN HUGHES *et alii* (*Am. J. M. Sc.*, July, 1954) present a report on the treatment of hypertension with "Serpasil". Sixty-two patients were treated as out-patients for from one to seven months; they were divided into two groups, namely, those with control diastolic arterial blood pressures between 100 and 120 millimetres of mercury, and those with diastolic pressures in excess of 120 millimetres of mercury. Approximately half of the patients obtained a significant reduction in blood pressure, and all but two of the patients who became normotensive were from the group of patients with less severe disease. Those treated for one to two months obtained results equally as good as those in patients who received the drug for two to seven months. No serious side reactions were observed. Doses of one to three milligrammes of "Serpasil" were administered intravenously to 17 patients; 13 of these had a significant reduction in blood pressure in one to four hours after administration of the drug, and half of them became normotensive. The authors state that "Serpasil" appears to lower

the blood pressure through actions other than those related to its sedative properties. There is little difference between "Serpasil" and extracts of *Rauwolfia serpentina* containing multiple alkaloids, when compared as to side reactions and blood pressure reduction in patients with hypertension. The oral dose of "Serpasil" varied from one to two milligrammes daily, and in some cases it was increased to as much as six milligrammes daily in divided doses. The intravenous dose was from one milligramme to three milligrammes, with an average of 1.9 milligrammes; the drug was administered in 100 millilitres of 5% glucose in distilled water over a period of fifteen to thirty minutes. The patients were observed for five to six hours after intravenous therapy, the blood pressure and pulse rate being recorded every five to ten minutes with the patient in the recumbent position. When a significant reduction in blood pressure was observed, similar determinations were made with the patient in the upright position. Of the 17 patients treated by the intravenous route 13 had a significant reduction in blood pressure about one to four hours after administration of the drug; and half of them became normotensive.

Compounds E and F and ACTH in the Management of Idiopathic Thrombocytopenic Purpura.

C. J. D. ZARAFONETIS, W. A. STEIGER AND S. K. CASTY (*Am. J. M. Sc.*, July, 1954) discuss the management of idiopathic thrombocytopenic purpura, and comment upon the results of treatment of this condition with compounds E and F and ACTH. Eleven patients with this condition were treated by the authors, and it was found that clinical bleeding was halted and capillary resistance uniformly improved when they were receiving steroid therapy; platelet remissions, temporary or permanent, were observed in eight of the eleven patients. There appeared to be no qualitative difference between the results achieved with oral hydrocortisone therapy and those obtained with cortisone therapy. Persistently positive results in serological tests for syphilis were obtained in two cases. These were shown to be "false-positive" through use of the treponema immobilization test. It is concluded that steroid therapy initiated at the time of diagnosis of idiopathic thrombocytopenic purpura is more conservative than a programme of watchful waiting.

Hydralazine in Hypertensive Diseases.

ROBERT D. TAYLOR *et alii* (*Arch. Int. Med.*, May, 1954) report further observations on the use of hydralazine ("Apresoline") alone in the control of hypertension. They state that half the patients respond favourably to the drug, and the response may persist for as long as thirty months. Mortality amongst the responders was about one-fifth of the rate among the non-responders in the series studied. Discordant views on the effectiveness of hydralazine seem attributable to various factors: failure of a large proportion of patients to respond; in patients the desire for a prompt depressor effect; over-estimation of the significance of side effects; the lack of an

ordered schedule of treatment; reliance on casual out-patient blood pressure determinations in evaluating the response. A regime of therapy is outlined by which dosage is slowly increased to 800 milligrammes daily, or to any lower fully effective dose, and slowly reduced thereafter to a minimum dose which will maintain the hypertensive effect. A favourable response is reflected in reduction of diastolic pressure to levels averaging less than 110 millimetres of mercury.

Intoxication by Streptomycin.

H. R. C. RICHES (*Brit. J. Tuberc. & Dis. Chest*, October, 1954) has found that unpleasant symptoms following the administration of streptomycin, such as circumoral paresthesia, lassitude, "muzziness in the head", vertigo, ataxia and headaches, tend to be worse when the patient is active after taking the drug and less when he rests after it. It is suggested that the drug is best given at night.

The Intravenous Administration of PAS.

J. S. JONES (*Brit. J. Tuberc. & Dis. Chest*, October, 1954) discusses methods of overcoming the gastric irritation caused by the administration of PAS to tuberculosis patients. He recounts a personal experience of the intravenous method of giving the drug, 1145 infusions having been administered to 45 patients with favourable results in the large majority.

Intramuscular Iron Therapy.

R. F. JENNISON AND HELEN R. ELLIS (*Lancet*, December 18, 1954) describe their experience in the treatment of pregnant women suffering from anaemia with an iron preparation suitable for intramuscular injection. The preparation was the dextran-iron complex "Imferon", which contains 50 milligrammes of iron per millilitre. Its effects were observed for six weeks or more in 68 cases, and for a shorter period in a further 13. Fifty women received the dose of iron calculated as necessary to correct their iron deficiency, and all attained a satisfactory haemoglobin concentration. Eighteen patients who received a standard dose of 500 milligrammes responded to a lesser extent. The estimated average utilization of the complex was 0.29 gramme of haemoglobin per 100 milligrammes of iron (51 milligrammes of iron raised the haemoglobin level by 1%). Local and general reactions were mainly mild and infrequent; of 225 patients treated with the new preparation, only one has had a severe reaction. The authors list ways in which treatment by intramuscular injection of this iron-dextran complex has advantages over treatment by intravenous injection of the saccharated iron oxide.

Mercaptopurine.

JOSEPH H. BUCHENAL *et alii* (*Am. J. M. Sc.*, October, 1954) report the results of treatment with 6-mercaptopurine of 170 patients suffering from various forms of leukaemia and other reticulos. The drug had no practical value for chronic lymphocytic leukaemia, lymphosarcoma, Hodgkin's disease or any of the metastatic carcinomas so far

studied. In 11 of 12 patients in the early stage of chronic myelocytic anaemia it was effective in producing satisfactory remission. Of 87 children with acute leukaemia 41 had good clinical and hematological remissions and 16 had partial remissions; in 30 cases the results were considered failures. Of 37 children whose disease had become resistant to 6-mercaptopurine, 14 had good clinical and hematological remissions with amethopterin. It is believed that 6-mercaptopurine acts through mechanisms differing from those of the steroids or the folic acid antagonists. In the treatment of acute leukaemia these drugs are best used sequentially, and the survival rates for one year or longer suggest that they are of definite value.

NEUROLOGY AND PSYCHIATRY.

Spinal Cord Compression Studies.

I. M. TARLOV AND ERNST HERZ (*Arch. Neurol. & Psychiat.*, July, 1954) state that significant recovery of function was not observed after the acute onset of complete sensory and motor paralysis of spinal cord function due to trauma. When paralysis is incomplete, considerable or almost complete functional recovery may occur. In cases of spinal cord tumours followed by gradually increasing and finally complete sensory and motor paralysis the prognosis is very good if the tumour can be completely removed without damaging the spinal cord. The more acute the onset of paralysis the more urgent is an immediate attempt to alleviate the condition of the compressed spinal cord.

Neurological Complications of Hypoparathyroidism.

O. SUGAR (*Arch. Neurol. & Psychiat.*, July, 1953) presents a comprehensive study of the neurological complications in parathyroid deficiency. He states that there are numerous manifestations in the central as well as the peripheral nervous system. These include epilepsy, mental retardation, psychiatric disturbances, papilloedema, cerebellar dysfunction, cerebral calcification and abnormalities in the electroencephalogram. At times these changes have closely resembled those of brain tumour and have led to surgical procedures. These central nervous system changes may be the presenting symptoms in patients with idiopathic hypoparathyroidism or in patients with post-thyroidectomy deficiency. The author considers that tests for tetany should be a routine part of a complete neurological examination, and that blood studies should be made when any suspicion arises of the coexistence of central nervous system disease and parathyroid disease. The index of suspicion should be higher when there is a history or finding of "senile" cataract in a person below middle age or when there has been a thyroidectomy. The mechanism of the production of the changes in the brain is unknown. The reason for localization of cerebral and cerebellar

calcification in some cases of hypoparathyroidism (seen on X-ray examination or at autopsy) is unknown, but the location responds to the locus of damage to grey matter in cases of carbon monoxide poisoning, asphyxia and nuclear jaundice in erythroblastotic infants. The author states that these cases are reported to illustrate the variety of manifestations of the disorder. He concludes that epilepsy in patients with hypoparathyroidism is probably a reflection of hereditary, traumatic or other predispositions, as manifested by abnormal electroencephalograms.

Selectivity and Option for Psychiatry.

C. P. OBERNDORF (*Am. J. Psychiat.*, April, 1954) states that the integration of the mentally disturbed individual can best be achieved if he is treated by one who understands his motivations (for example, race, creed, colour) rather than by one considered expert in a particular form of mental illness. If both can be combined in the same individual, the ideal is approached. With his mental equilibrium reestablished the patient can more readily adjust himself to the group in which he is placed by the time of his birth, his colour or the locality. It is probable that for many years there will be a need for the selective mental hospital.

Photogenic Epilepsy.

E. GRAEME ROBERTSON (*Brain*, June, 1954) describes seven cases of self-induced photogenic epilepsy. The attacks are precipitated by rhythmical interruption of sunlight falling on the patients' eyes. The flicker may be produced by movement of the fingers or the hand in front of the eyes, or by blinking. The attacks are usually slight and of brief duration with varying degrees of impairment of consciousness. The best method of treatment was to get the patient to stop the movement that precipitated the attacks.

Legal Aspects of Psychiatry.

R. PERKINS *et alii* (*Am. J. Psychiat.*, July, 1954) state that claims of medical privilege may be made for two different reasons; it may be urged as a defence to civil or criminal prosecution, such as libel or slander, or as a reason for non-disclosure. Extreme privilege, such as the attorney-client relationship or the marital relationship, is not as a rule accepted for the physician-patient relationship in "common law countries" unless it has been established by special statute. Some two-thirds of the States in the United States of America have made special statutes in this respect. The privilege varies in different States—for example, privilege, but the removal of the privilege by the presiding judge in a superior court to the application in civil actions only. It is recognized that the physician-patient relationship survives the death of the patient. A communication is not considered privileged if it is made in the presence of a third person whose presence was for some purpose other than to aid the doctor. Special rules apply when the doctor examines the patient at the request of a lawyer. This information is considered as an issue of

the client-lawyer relationship and should not be disclosed without the patient's consent. It is a common principle that if a conflict exists between a general and a specific provision, then the latter will control—for example, in cases of violent injury, contagious disease, births or narco-addiction. Lord Riddell sums up the English tradition—namely, a doctor must preserve a patient's confidence unless relieved of that obligation by some lawful excuse, such as legal compulsion, patient's consent, moral or social duty, or the protection of the doctor's interests. "The Principles of Medical Ethics" of the American Medical Association implies in some cases a higher duty to society than to the patient. At common law a physician called as a witness has no right to decline or refuse to disclose any information. This is the rule in the absence of contrary statute. If a psychiatrist discloses information after he has claimed privilege and has been overruled by a court, there would not seem any basis for liability.

Localization of Discharge in Temporal Lobe Automatism.

W. FEINDEL AND W. PENFIELD (*Arch. Neurol. & Psychiat.*, November, 1954) examined 155 patients who had been operated upon for the treatment of temporal lobe seizures; 78% had had attacks characterized by behaviour automatism. The authors state that automatism may be preceded by no warning or by one or more warning features. There is, therefore, true ictal as well as post-ictal automatism. The area responsible for the initiation of behaviour automatism appears to centre in the periamygdaloid region. The periamygdaloid region is particularly susceptible to involvement by tentorial herniation, either by direct mechanical distortion of the tentorial edge or by interference with its blood supply by compression of the anterior choroidal artery. The present studies are consistent with previous views that incisural sclerosis produced by tentorial herniation at birth is a cause of temporal lobe seizures coming on later in life. It is noted that temporal lobe seizures with behaviour automatism more closely correspond, as regards both the seizure pattern and the site of the pathological lesion, to the uncinate fits as described by Hughlings Jackson.

Classification of the Epilepsies.

SIR CHARLES SYMONDS (*Arch. Neurol. & Psychiat.*, November, 1954) sets out a rational method for the classification of epilepsies. He suggests that any classification should consider clinical, anatomical, physiological, pathological and therapeutic data. He hopes that the concept of "temporal lobe epilepsy" will supplant the term "psychomotor epilepsy", for which there was never much to be said, as the electroencephalographic pattern which gave rise to it has proved non-specific after all. Like all today's leading neurologists, he pays homage to Hughlings Jackson's concepts of epilepsy, but considers that "temporal lobe epilepsy" is a better term than Jackson's idea of the "uncinate group of fits".

University Intelligence.

UNIVERSITY OF MELBOURNE.

The following article by the Vice-Chancellor of the University of Melbourne, Professor G. W. Paton, is published at the request of the Director of the University of Melbourne Centenary Appeal.

On the Occasion of the University of Melbourne Centenary.

It is a pleasure indeed to address through the pages of THE MEDICAL JOURNAL OF AUSTRALIA the many graduates of this University who now practise the profession of medicine, not only in the Commonwealth but throughout the world. Many, of course, are following this profession in Victoria and will be to some extent, at any rate, familiar with the progress and the problems of the University since their student days. But others perhaps, in distant places, will have no direct contact with a University which has undergone extraordinary transformations, both quantitative and qualitative, and they will wish to know something of how we fare today. My aim, however, is not only to tell graduates about our hopes and plans, but also to ask their help. In speaking to other sections of the community, it is necessary to emphasize the functions and place of a University. That I need not do here. All of us understand very well the achievements of the University of Melbourne; all of us are equally aware of the reasons why it should continue to be one of the great universities of the world.

In this centenary year the University is appealing for £1,000,000. This great sum of money, as it would once have seemed—and, indeed, despite all inflation, it is still a very large sum—is needed primarily to replace outworn structures with buildings that will enable the University to do the task demanded by the needs of Victoria. We have reached a stage at which we cannot accommodate adequately the very large number of students which we now have. There is overcrowding of classes with the inevitable result that teaching—or rather learning—must suffer. Whole sections of the University are housed in makeshift, unsuitable and sometimes unfortunately hideous buildings, the worst perhaps of the "temporary" army hut type, insufferably hot in summer and altogether inadequate either for teaching or for research. Essential academic developments are held up because of lack of accommodation. Teaching and research suffer, and an intolerable burden is placed on many members of the staff.

At the end of the war student numbers doubled. In the last three years there has been a fall, but estimates show that a steep increase will soon begin. The demands on the University are much greater than could have been envisaged before the war, and we are in no financial case to meet them. There is an obvious limit to the passing on of costs to the student; in fact student fees have been raised nearly threefold in keeping with the general loss of value of money in the community. Nevertheless, students provide only about one-fifth of the cost of their education. To the general problem of inflated costs must be added the special costs of the complex scientific equipment needed today. Thus an electron microscope costs £5000 and even a small cyclotron £20,000.

Nevertheless, our most pressing problem is that of bricks and mortar. We have already made a start. The University possesses roughly £500,000 in building funds, and the State Government has made a grant of an equivalent sum spread over several years. The new mining and metallurgy building is practically completed (I will give the approximate cost in parentheses after each project; £100,000). Wilson Hall should be completed by the end of this year (£250,000). Extensions to the forestry (£3000) and agriculture (£25,000) buildings have already begun. The Beaurepaire Foundation for Physical Education (£165,000) will fill a serious gap in our structure. The University has never even owned a simple gymnasium, and this imaginative project will not only house our physical education section, but will also provide a swimming pool and other amenities. A contract has been let for the first wing of International House (£120,000). Plans for a new bookroom for our Press are also under way (£15,000). This year, out of the money provided by the State Government, a hydraulics laboratory and a floor of engineering laboratories will be built on Grattan Street (£100,000).

I mention these points to dispel any feeling that the University Council has been inactive or that the community is not supporting the University.

But this is only the beginning of the problem. The war years have left us with a huge lag to overtake. The library, for instance, is totally inadequate; it is seldom possible in term time for members of the staff to find a seat. The wooden building which houses the faculty of architecture is wholly unworthy of the department which it shelters. The dilapidated huts of the visual aids department are not only a blot on the University landscape, but in summer are so hot that the processing of negatives and other work must cease whenever the temperature rises beyond a certain point. In the bacteriology department the laboratories are so cramped that working conditions are not only bad but so potentially dangerous that certain kinds of work have to be limited. We need a new biochemistry school as well as added space in all the other medical departments. I do not wish to give a catalogue—but there is hardly a department which has space adequate to its needs.

Our immediate next objective is to build a new library and a new biochemistry school and to add two floors to the new arts building. The library is estimated to cost £450,000 and the biochemistry school is not far behind. These two buildings will not only assist two important departments, but will set free space which will be of the utmost value. The old library, remodelled with two floors, will provide room for the whole of the administration and enable us to destroy temporary buildings which have outlived their day. The removal of biochemistry will set free much space for the medical school.

We hope that all graduates who live in Melbourne will make a point of visiting us to see conditions for themselves. Those who remember the University in the twenties can hardly realize the pressures that exist today. The University has shown the "Australian flair for improvisation" by making use of all kinds of temporary expedients—but there are few corridors left which can be turned into laboratories. An imaginative master plan has shown what can be done to make the physical home of the University commensurate with its international reputation. "Where there is no vision, the people perish." The University has the vision and realizes that the future of Victoria depends on how far the University can meet the challenge of the demands of our complex society; we ask that you, too, share that vision and help us to realize it.

For this purpose our target is £1,000,000. We believe that the task of raising it is one that will appeal both to the pride and to the general civic sense of graduates. It may be that the bulk of contributions must come from business corporations, great, medium and small. But that is not enough, nor should it be enough. It should be, and is, our especial privilege to play our own part, not only in such direct giving as is possible to us, but by becoming advocates to explain to the community what the University has achieved and what it needs to perform its task adequately.

Medical Societies.

PEDIATRIC SOCIETY OF VICTORIA.

A MEETING of the Paediatric Society of Victoria was held on Wednesday, October 13, 1954, at the Alfred Hospital, Melbourne. A series of clinical demonstrations were given by members of the paediatric staff of both the Alfred and Queen Victoria Memorial Hospitals.

Intussusception of Small Bowel Through Patent Omphalo-Mesenteric Duct.

DR. JUNE PASH, of the Queen Victoria Memorial Hospital, presented the first case, that of a baby with intussusception of the small bowel through a patent omphalo-mesenteric duct complicating an exomphalos. She stated that the mother of the baby was a *primigravida*, aged twenty years. Pregnancy had been normal apart from mild excess weight gain, but there was no hypertension or albuminuria, nor was there any history of infections during early pregnancy.

The mother was admitted to hospital at the thirty-eighth week of gestation with premature rupture of the membranes and a breech presentation, and on the following day labour was induced by "Pitocin" drip therapy. Labour lasted for twenty-four and a half hours, and was terminated by an assisted breech delivery with forceps to the aftercoming head, local infiltration of the perineum and pudendal block being used.

The baby weighed seven pounds one and a quarter ounces at birth. After delivery the baby was rather limp and toneless and took a few minutes to breathe. On examination of the baby a minor degree of exomphalos was observed; the umbilical cord was about two and a half inches broad at the base, and loops of small bowel were seen in it. About one inch from the abdominal wall a "red branching appendage" was observed. This had a red velvety surface and a dimple at each end, and was diagnosed as an intussusception of small bowel through a patent omphalo-mesenteric duct because of its resemblance to the picture shown.

Intravenous drip therapy was instituted, and the baby was prepared for the operation, which was performed by Dr. G. C. Hodges eight hours after the baby's birth. An incision was made in the abdominal wall around the base of the exomphalos, and the peritoneal sac containing the bowel exposed. When the sac was opened, the small bowel was pulled back from the cord. This management reduced the intussuscepted part of the bowel, as Dr. Pash showed in a diagram. The patent omphalo-mesenteric duct was then divided at its opening, and the antimesenteric border of the bowel was sutured with a double layer of continuous chromicized catgut; the suturing was oblique to avoid constriction of the lumen.

The bowel was then returned to the abdominal cavity and the peritoneum sutured after the excess had been trimmed off; the hiatus in the abdominal wall was closed in layers.

The baby was kept on continuous intravenous therapy and given chemotherapy with "Distaquaiae" and streptomycin for five days. Continuous aspiration was not used, and the baby vomited a very small amount of bile-stained fluid on the second and third days. On the fourth day the baby passed a peculiar white mucoid stool, presumably from the lower part of the bowel. This was examined by the pathologist, who reported that it resembled the meconium typical of meconium ileus. On the fifth day the baby passed normal-looking meconium. From this point onwards progress was uninterrupted. Oral feedings were commenced and increased without vomiting. Sutures were removed on the fourteenth day, and the wound was well healed. The baby was discharged from hospital on the twentieth day weighing seven pounds fifteen and a half ounces and fully breast fed.

DR. KATE CAMPBELL, who opened the discussion, said that the cause of the disorder seemed a mystery. There were no abnormalities during the pregnancy that might have played a part. She also presumed that the meconium plug that was first passed by the baby meant that no pancreatic secretion had passed the blockage.

DR. P. JONES said that the condition was rare, only 52 cases having been recorded in the world literature, as quoted by Professor Milroy Paul in a Hunterian Lecture in 1952. One interesting feature of the series was that in 16 cases patients had been treated successfully by non-operative means—namely, manual reduction of the mucosa. This led to critical examination of the use of the term intussusception, which they proved incorrect. The condition was in reality one of mucosal prolapse without interference with blood supply. Dr. Jones described a case which he had met with in which there was no exomphalos, and which might be described as a "congenital double-barrelled ileostomy". The area of defect in the umbilicus was small, being only the size of the orifice in the ileal wall. The case was complicated by obstruction in the next proximal loop of ileum by the fibrous margin of the umbilical defect. The obstruction did not interfere with blood supply. For this reason operation was necessary, and the involved segment of ileum was resected with end-to-end anastomosis. Recovery was uneventful.

Staphylococcal Lung Abscess with Bilateral Pyopneumothorax.

DR. KATE CAMPBELL presented the case of an infant, aged three months, who had been admitted to the Queen Victoria Memorial Hospital with staphylococcal bronchopneumonia. The baby developed a tension pneumothorax and was transferred to the Alfred Hospital for further management.

DR. K. MORRIS said that the baby was admitted to the Alfred Hospital with an intercostal catheter in the right side of the chest and an extremely vigorous leak of air through the catheter to a water seal bottle. The child was practically moribund, and it was clear that some effort had to be made to close the leak in the lung. An immediate thoracotomy was carried out, and two large holes were found in the middle lobe, which appeared to be the seat of an abscess. The middle lobe was excised, and this stopped the

air leak; the remainder of the lung expanded well. The child's condition gradually improved the next day, and then suddenly deteriorated. There was now a pneumothorax on the left side, with an abscess in the upper lobe on that side. The tension pneumothorax was well controlled with an intercostal catheter. The child's condition again improved gradually, but slowly deteriorated over the next few days, and he died on the sixth post-operative day.

At post-mortem examination an empyema was found on both sides with an abscess in the upper lobe of the left lung. During the course of the illness *Staphylococcus aureus* was isolated from the pus, and this was resistant to all the chemotherapeutic agents except bacitracin. Bacitracin was administered from the fifth day, but this made no difference to the ultimate outcome.

DR. MORRIS said that this case was an example of staphylococcal lung abscess of infancy with bilateral pyopneumothorax. Usually the prognosis of the condition was regarded as moderately good, but in the present instance the presence of a resistant strain of staphylococcus resulted in the child's death.

DR. R. N. HOWARD, who opened the discussion, said that the case seemed to be a typical case of staphylococcal pneumonia. He had one patient with such a condition at present under treatment. However, it was unilateral, but had been incompletely controlled by needle drainage. DR. HOWARD did not think that the intercostal catheter was the answer to adequate drainage, but would rather use a metal cannula three-quarters of a centimetre in diameter. This would drain the empyema, too, and should be placed in position under local anaesthesia. He felt sure that the treatment should very seldom be operative.

Neuromyelitis Optica.

DR. H. L. STOKES presented the case of a female patient, aged twelve years, with *neuromyelitis optica*. The patient had been admitted to the children's section of the Alfred Hospital with severe neck stiffness and a bladder reaching to the level of the umbilicus. She had been unable to pass urine since the early hours of the day of admission and her bladder was immediately catheterized, thirty-six ounces of urine being removed.

Her previous health had been good, and she had had no serious illnesses—only measles, chickenpox and mumps in early childhood.

Three weeks before her admission to hospital she had awakened one morning with severe frontal headache and fever. Acute sinusitis was diagnosed. She was given penicillin and satisfactorily responded to treatment. She was allowed up on the eighth day and was apparently quite well until three days before her admission to hospital.

During those three days her temperature was slightly raised, and she stated that there was a feeling of numbness in the lower half of the trunk and in her lower limbs, and some "pins and needles" in her feet. However, she could not have been feeling very ill because on the day before admission to hospital she attended a cinema as a member of a children's birthday party. On returning home she felt drowsy and elected to go to bed instead of taking part in the birthday tea. She had some difficulty in passing urine that night and again the following morning.

Following catheterization in hospital, a lumbar puncture was performed, and the pressure found to be greatly increased. The cerebro-spinal fluid contained 150 cells per cubic millimetre, the majority of which were polymorphonuclear leucocytes. The result of a test for globulin was positive, but otherwise the fluid chemistry was normal. The white cell count was 16,000 per cubic millimetre, the majority of the cells being neutrophile cells. There was slight papilledema, but otherwise the central nervous system was normal.

The next day, as she was still unable to pass urine, a self-retaining catheter was inserted. She was more drowsy, the cerebro-spinal fluid pressure was again greatly increased, the cell count was a little lower, but the cerebro-spinal fluid chemistry was similar to the first findings. On the second day tidal drainage was commenced, and this was carried on for three weeks.

She gradually lost power, and a few days after her admission to hospital there was practically no power of movement in the lower limbs. In addition, for a day or so, there was almost complete anaesthesia below the level of the umbilicus, and she was unable to defecate voluntarily.

Gradual improvement then started, first in the lower limb muscles, and there was also some recovery of sensation in a patchy dissociated way. Drowsiness decreased, but despite this the papilledema was greater, and there was a small haemorrhage in the right optic disk.

On the seventh day after her admission to hospital she complained of pain behind the left eye, and on the following day she stated that the ward seemed to be getting dark. In another two days vision was lost, and there was a complete absence of light reflex.

However, two days later an encouraging flicker of light reflex was demonstrated in the left eye. Recovery of eyesight was rapid in the right eye, but that in the left was appreciably slower. Muscle power steadily improved.

A week later the catheter was removed, and a few hours later the child was encouraged to micturate naturally. She was unsuccessful and for a brief period was extremely upset. The catheter was reinserted but two days later again removed; this time voluntary micturition was successful, and there were no further setbacks.

The little girl was discharged after five and a half weeks in hospital, looking very well and walking quite freely; all deep reflexes were equal and active. The superficial abdominal reflexes were absent, but the bilateral Babinski response which had been present for some two weeks had now become equivocal. Vision in the right eye was very satisfactory but was impaired in the left eye, in which there was a definite small central scotoma.

Dr. Stokes then outlined the results of the more important investigations. An electroencephalogram report revealed that the outstanding feature of the records was the existence of continuous high voltage slow activity over the hemispheres, but far greater in the posterior regions, and possibly a little more in the right posterior temporal region than in the left. The appearances were said to be indicative of structural disease, but the changes could be indirect from the posterior fossa.

Air studies were not carried out, because there was a definite possibility that the child might have had some intracerebral abscess. Numerous cerebro-spinal fluid examinations were performed during the first two weeks. Fluid pressure was always high, and the results of tests for globulin were always positive, but the chemistry was otherwise normal. The fluid cell count was never high, and repeated attempts at culture produced negative findings.

The marked leucocytosis which was found on the day of admission to hospital quickly diminished, and eight days later the findings on blood examination were normal.

The child's temperature was never very high, but a rise persisted for a period of four weeks.

During the first two weeks in hospital she was treated intensively with penicillin, streptomycin and sulphamezathine. As symptoms and signs manifested themselves, the diagnosis of *neuromyelitis optica* was made. There was never any evidence of cerebellar involvement. It was realized that there were certain definite anomalous findings, especially the marked and sustained rise of cerebro-spinal fluid pressure, and also the prolonged pyrexia.

The patient had been very well since discharge from hospital, and the vision in her left eye had definitely improved.

DR. J. GAME, in opening the discussion on this case, said that there were two outstanding features for discussion. The first was the cerebro-spinal fluid pressure, which he found incompatible with the diagnosis if that was accepted at its face value. He also thought that with the story of infection two weeks before one must consider some intracranial infection. The patient was treated early with antibiotics, and the stage was set for abscess formation or cortical venous thrombosis. There was no evidence to separate those two. *Thrombophlebitis migrans* was also a possible diagnosis.

In considering the submitted diagnosis with that of disseminated sclerosis, Dr. Game said that many people thought that the two conditions were identical. In *neuromyelitis optica* the lesion was more destructive, and the proliferation of mesodermal connective tissue in the optic nerves was a feature. The patient was young for the disease, but there were records of such cases. The literature contained a mass of individual reports, mainly by pathologists, and no true idea of the aetiology had been forthcoming.

Dr. Game concluded by saying that he did not think the diagnosis was firmly established in the present case.

Fallot's Tetralogy.

DR. C. J. OFFICER BROWN presented five patients who had had anastomotic operations performed for Fallot's tetralogy.

The first patient was now a girl of fourteen years who had been operated on in October, 1947. She had been severely cyanosed since birth and before operation was confined to her bed every winter, because of persistent

respiratory infection and severe anoxic attacks. Her haemoglobin value was 27.5 grammes per 100 millilitres (188%). A Willis Potts operation was performed on October 10, 1947. Six weeks later she developed congestive cardiac failure, but she recovered from that and since then had been leading a completely normal life as a school girl and taking part in all the activities of the school. Her colour was normal, clubbing of the fingers had completely disappeared, and exercise tolerance was sufficient to allow her to take part in quiet games. The heart was definitely enlarged, but there had been no increase over the last two to three years.

The second patient was a man of thirty-seven years who had been completely disabled and receiving the invalid pension all his life. Blalock's operation was performed at the end of 1953, the haemoglobin value before operation being 170%. Improvement had been marked, exercise tolerance increased, and he was now undergoing rehabilitation training with a view to seeking clerical employment.

The third patient had been cyanotic at birth. At the age of three years Blalock's operation was performed on the left side with great improvement; but after twelve months the continuous murmur had disappeared, and cyanosis and disability had returned. Operation was repeated on the right side in February, 1952, and the child had now greatly improved. In her case the pulmonary arteries were very small and would probably not be able to carry sufficient blood to produce maximum improvement, but she was able to live a normal life with the family.

The other two patients further demonstrated the satisfactory results produced by anastomotic operations.

Dr. Brown said that, in his opinion, it would never be possible to make the heart normal in patients with severe Fallot's tetralogy. The problem could be attacked either by performing a shunt operation or by enlarging the outflow tract from the right ventricle as recommended by Brock. A recent review of their series by Campbell and Brock had shown that the results obtained in these cases were very similar to those obtained by anastomotic operations. It was argued that anastomotic operations added a further defect to the heart, whereas the direct operation relieved one of these defects. Although this was partially true, Dr. Brown felt that neither operation restored the heart to a condition anywhere near normal; and although Brock's figures were excellent, it was very doubtful whether other surgeons with less experience could achieve the same satisfactory mortality. It seemed likely that the anastomotic operation would continue to produce satisfactory results at a risk much less than that achieved with the direct operation.

At the Alfred Hospital approximately 170 patients had been operated on for cyanotic heart disease. Approximately 150 of these operations were anastomotic operations for Fallot's tetralogy, and 16 of the patients died. The figures were only approximate, but complete figures would be reported in the near future.

DR. J. GARDINER, in opening the discussion on Dr. Brown's paper, said that the first patient mentioned developed cardiac failure a few weeks after operation. This occurrence had been described in both Brock's and Blalock's series, and it seemed that the risks in older patients were considerably higher. The figures of the series at the Alfred Hospital were comparable to those of both Blalock's and Brock's series, and the result showed that in approximately 70% of cases improvement was good or very good. About 15% of patients were not improved or the operation was not able to be carried out, and about 15% died. In some of the cases in which a good result had been obtained there was retrogression, and a second operation had to be performed.

Brock seemed to be the only one continuing with the direct operation. His results with that operation were comparable, but the mortality was higher, being 15% to 18% against his 10% with the anastomotic operation. In both series the heart was enlarged, and in both the left ventricle was doing more work. The direct operation might produce the Eisenmenger syndrome. From the physician's point of view the anastomotic operation was a more comfortable operation.

DR. M. L. POWELL said that a debt was owed to Dr. Brown for being the pioneer in this work in Australia. Dr. Brown had always been willing to advise and help those with less experience. Dr. Powell said that there were two basic defects in this condition, the degree of pulmonary stenosis and the degree of overriding. In cases in which the first factor was great but there was no overriding, the direct attack was necessary. In cases in which pulmonary stenosis was minimal and there was overriding, the anastomotic operation was preferable. The discussion at the present meeting had probably helped to sway the minds of those

present to the anastomotic operation, but in twenty to thirty years things might be different. He thought that Brock's experience was based on a late age group.

Dr. Brown, replying to Dr. Gardiner, said that cardiac failure had occurred in the first girl six weeks after operation. It was during a mild attack of influenza.

In reply to Dr. Powell, Dr. Brown said that the shunt operation was of no use in the absence of a ventricular defect. Because of the overriding in Fallot's tetralogy there was distortion of the outflow tract. He had performed 170 cyanotic heart operations and 155 were approached with a view to anastomosis. In about 15 cases the condition was inoperable; in the rest the shunt operation was performed. The total mortality had been 16 out of 155. The deaths had occurred in some very small children and in some of the older patients. Dr. Brown thought that anastomosis was a precision operation and was performed under complete vision and with accuracy. The direct operation was blind, being performed through a small hole in the ventricle, and one had no idea of the outflow tract. He believed that the majority of patients had more complicated defects in the outflow tract than Brock maintained.

Out of the Past.

In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.

PUBLIC NOTICE.¹

[From the Australian Medical Journal, October, 1860.]

It will be remembered that about five months ago an unfortunate man named J.O. was shot at and robbed by bushrangers whilst crossing the Pyrenees. During the whole of the time that has elapsed since, he has been under surgical treatment as an in-patient at the Melbourne Hospital. He was at length discharged from that place as incurable: but we are glad to learn that the ball which has ever since been lodged in the knee joint was safely extracted on Wednesday last by Dr. ——, F.R.C.S., the patient being under the influence of chloroform administered by Dr. ——, one of the physicians of the —— Asylum. Since the operation he has not had a bad symptom. (Argus.)

We understand that J.O. (who was shot and robbed by bushrangers at the Pyrenees some five months ago) is now progressing favourably, having had the bullet extracted from the knee joint on Wednesday last. (Herald.)

These are admirable examples of the puff surgical—a species of puff that has done much for some of our notabilities who constantly meet with "something worth putting in the papers". The first version is evidently the original paragraph, and is written in a style to appear as if it came spontaneously from the editor, so it must have been a grievous disappointment, to use a vulgar phrase, a "sell" to find it among the advertisements. The second, although inserted in the news-column, is plainly a paraphrase of the original. It is an excellent attempt to coin capital on the eve of an election and we cannot but congratulate the learned Hospital Physician on his happy expedient of the puff by conjunction. Verily, "its no a generation to wait till ane's worth's discovered I trow".

Special Correspondence.

LONDON LETTER.

BY OUR SPECIAL CORRESPONDENT.

In England the weather is the usual gambit in conversation, and the daily weather reports on the radio and television during the winter are awaited with more than usual interest in the hope that some relief from its rigors may be discernible. The weather man on the tele-

vision screen has become a popular figure, with his weather maps, pressure systems, cold fronts *et cetera*, and his explanations of the forecast for the next twenty-four hours—predictions which are often upset by the vagaries of Nature—and on his head falls the caustic comment of housewives, farmers, sailors and airmen. The weather in the early months of this year has been severe, with consistent low temperatures, snow and icy roads, but generally speaking the amount of sickness has not been heavy. After the poor summer of 1954, with less than average sunshine, this is a little surprising. It seemed reasonable to assume that an influenza epidemic might develop. One of the best epidemiological indices is a rise in the number of claims for sick benefit under the National Health Service. Other information comes from doctors in hospitals, factories and institutions; from general practitioners who act as "spotters" in their area; and from medical officers of health and medical officers at sea and air ports.

London is the site of the World Influenza Centre, where research provides information of the particular influenza virus associated with the prevailing outbreak. The virus so far met with this winter has been the milder virus B. Influenza began this winter in the north of England, and school children were heavily affected; many schools had to close. In the south the illness was less defined but still mild in character. No epidemic of virus A influenza has yet arisen.

Work on prevention is being actively pursued. A report by the Medical Research Council showed a reduction of 40% among those inoculated with vaccine, as compared with a control group during the 1952-1953 winter. Trials are now in progress with four types of vaccine on 16,000 volunteers in industrial centres.

The Common Cold Research Unit at Harvard Hospital, Salisbury, has completed its eighth year of activity. Since the unit first opened in 1946 over 4000 volunteers have taken part in the trials. Comfortable quarters are provided for the volunteers, who remain in isolation for ten days. A few drops down the nose given on the second or third day after arrival may result in a cold; the chances are roughly fifty-fifty. The "artificial" cold is usually mild. Volunteers come from all parts, some from overseas. They are mainly visitors or students. About fifteen months ago the unit announced its first notable success, the discovery that a common cold virus could be cultivated in tissue cultures of embryonic human lung. It was found that the virus could be kept "alive" through a series of 10 cultures. This may enable the production of larger quantities of virus and render possible a study of its life cycle.

Clean Air.

The coming of winter brings a reminder of the disastrous effects of atmospheric pollution in London during early December, 1952. The lethal combination of smoke and fog hastened the deaths of some 4000 people, and vigorous government action was demanded. Apart from the special atmospheric conditions prevailing at that time, pollution of the atmosphere in a highly industrialized country is constantly going on, with damage to health, plant life and property. It has been aptly described as "turning the air into a sewer".

In November, 1954, the government-appointed Beaver Committee presented its report. The report states that pollution is a social and economic evil of the first magnitude and should no longer be tolerated. It needs to be combated with the conviction and energy applied to securing pure water one hundred years ago. As nearly half of all smoke in the air comes from domestic sources, there is little justification for requiring industry to take all possible steps to prevent smoke unless the domestic smoke problem is tackled. This will mean a radical change in domestic fuel used and the replacement of open coal fires by fires burning smokeless fuel, gas or electricity. The committee realize that it will not be easy to persuade the householder to accept coke in place of house coal. Much will depend on a satisfactory type of coke and a satisfactory appliance to burn it which is more efficient, labour-saving and economical.

In regard to industrial smoke, it is recommended that, with some exceptions, the emission of dark smoke from any chimney should be prohibited by law throughout the country. In certain industries the prevention of smoke would entail extensive modernization of plant and much technical difficulty. Smokeless zones and smoke-controlled areas are advocated. Many already exist; the latest to be designated is the City of London.

Legislative action on the lines of the Beaver Report has been promised by the Government during the present session of Parliament.

¹ From the original in the Mitchell Library, Sydney.

Medical Manpower.

In January of this year there were 19,423 doctors serving as general practitioners in the National Health Service and responsible for the care of over forty-two million patients. In the previous year the number of general practitioners was 18,584. The Medical Practices Committee is concerned at the signs of approaching saturation in the general practitioner service. An urgent examination of the problem of medical manpower from all aspects is needed. There is also a need for an assessment of the optimum medical manpower requirements of the health service. An assessment would depend not only on the numbers who are eligible and desire to become doctors, but on the capacity of the medical schools to provide places. The intake of medical students should be related to foreseeable requirements of all sources of medical employment. Any development in the service would also depend on what rational finances would permit.

It has recently been announced that a committee has been appointed by the Minister of Health under the chairmanship of Mr. Henry Willink, Q.C., to inquire into the number of doctors likely to be engaged in practice in the future, and the intake of medical students which will be needed.

The Medical Practices Committee also reports a more even distribution of doctors throughout the country. A good practice in the popular area in the south of England, however, still attracts more applicants than a similar practice in the industrial north and Midlands. Under the present system appointment to a practice provides few opportunities to make a change to more congenial surroundings. The young doctor realizes that where he starts in practice, there he—and his wife—must stop for the remainder of his professional life.

Correspondence.**PRACTITIONERS AND MEDICAL BENEFITS.**

SIR: I am entirely in accord with the sentiments expressed in Dr. Frank L. Bartlett's letter of January 1, 1955, and at this stage would like to register my agreement with him, and I am sure with most other medical men, because the Council in this State suggests otherwise. No doubt the fellowship expressed in the past by medical care being accorded free, from high to low, was an admirable way of showing our brotherhood, but now that a means is offered to us of covering such kindness, I am certain that we would all sooner adopt this, rather than feel under the sense of obligation which if we had ordinary human feelings we could not avoid—and by thus insuring ourselves we certainly show that we practise what we preach.

One other matter deserves recognition, too—that of our sister profession. Surely their work is onerous, and without them we could not carry on. Is it too much to ask all my brother medical practitioners to afford a little recognition of their services—if they need our care and attention—for as much as we looked after our fellow medicos in the past? That this is the general practice I know, but that it is not universally so, I have had active proof quite recently.

Yours, etc.,
L. P. WINTERBOTHAM.

Ipswich Road,
Anerley,
Brisbane, S.3.
March 8, 1955.

DOCTORS AND HOSPITAL BOARDS.

SIR: Any doctor who has attended hospital board meetings will agree that hospitals would be very much more effectively run in the interests of patients if experienced medical opinion had at least an equal vote to that of the laymen who constitute these boards.

Doctors who are indulgently tolerated to attend meetings are faced with an extraordinary situation. The Hospital Commission's by-laws state that their presence is for the sole purpose of advising on medical or surgical matters. Yet when any important staff or administrative matters are under discussion they are not even permitted to speak. And at no time are they allowed to vote.

This state of affairs is not only unjust, but also insulting to the character and feeling of men whose profession is

otherwise held in the highest regard. This is all the more remarkable when one considers that in many cases the administrators of our institutions are obviously unqualified for such a task.

We would urge that Council take this matter up immediately at the highest political level, to rectify this monstrous injustice. The Commission's constitution needs drastic reform. Doctors should be able to nominate for any positions on hospital boards.

Yours, etc.,

W. F. J. CAMMACK,
Honorary Secretary, Medical Board,
Penrith,
Nepean District Hospital.
March 8, 1955.

MEDICAL REGISTRATION.

SIR: I would like to make a plea for the easier registration of foreign-born doctors. I have watched with sympathy the terrible struggle to exist some of them have made in Australia. Because they cannot obtain registration they have been forced to do the most menial of tasks and have received no aid from the medical profession. These men are our brothers.

Yours, etc.,
F. W. SIMPSON, D.O. (Oxon.).

105 St. George's Terrace,
Perth,
March 18, 1955.

AN EXPLANATION.

SIR: We would be pleased if you could afford us some space to make an explanation to a number of doctors who have recently written to us. Some few days ago, we issued a pamphlet on "Argyrol" to all doctors on our mailing list and at the same time enclosed a post card with a request for a free sample of "Argyrol". We have, unfortunately, received a great number of requests, by means of these cards, without the name and address of the doctor being filled in, and consequently, we feel that some explanation and apology is due to those practitioners who have requested this sample and have not and cannot receive them. Thanking you for your assistance in this matter,

Yours, etc.,
FASSETT AND JOHNSON, LIMITED.

36-40 Chalmers Street,
Sydney,
March 18, 1955.

INTERNATIONAL STANDARDIZED ANATOMICAL NOMENCLATURE.

SIR: Your news of the reform of anatomical terminology given in the editorial of December 11, 1954, is indeed welcome. From its early days of unshallow, furtive and necrotic dissections human anatomy has widened into a fair fragment of truth in its own right, but, far more important, has merged through the affiliations of comparative anatomy into a noble and dignified science by which the very principles of structure common to all members of the animal kingdom have become discernible.

Anatomy has thus now become a member of that venerable society of basic sciences, astronomy, chemistry, physics, biology, and others, each of which presents for man's enlightenment a facet of absolute truth, the hand-work of the Creator.

Few will disagree that the time is appropriate for a systematization of terminology on a basis that is international, dignified and rational. It is then with dismay that we read in your editorial a plea for the preservation of some eponymous titles, a plea which is retrograde because progress in enlightenment inevitably involves regress in empiricism. Let the historian tell the story of our gropings and discoveries by all means, but let the scientist rejoice every time he can replace an empirical term with a descriptive or coordinate one.

So much for anatomy—relatively easy to delineate and systematize. The same process must be applied to the other, more complex sciences pathology, biochemistry.

physiology, general medicine. The time will come when diseases, syndromes, tests and various phenomena at present labelled with a cognomen will be identified and placed in their proper places and relations in the overall picture. In the meantime conventional usage necessitates the retention of some eponymous terms, but let us be not loath but eager to substitute system in place of sentiment. Much can be done by us all in our everyday references to outmode a terminology whose ultimate fate is better hastened than deferred. One suspects that he who uses, say, von Recklinghausen's disease in preference to neurofibromatosis is cherishing a feat of memory rather than respect for a pioneer.

Yours, etc., H.N.M.

Randwick,
New South Wales,
March 27, 1955.

THE TEETH AND FOOD.

SIR: I read the article by Dr. Clements in the journal of February 26 with interest, but was surprised to see the sentence "scientists are searching for an anti-enzyme which can be incorporated into confectionery, tooth-paste and what have you . . .". It seems to me that there is absolutely no need to use this piece of jargon in a professional journal.

Yours, etc., JOHN FRANCIS.

The Veterinary School,
Yeerongpilly,
Brisbane.
March 29, 1955.

THE USE OF PAS IN RHEUMATOID ARTHRITIS.

SIR: I am very grateful to Dr. Brian G. Haynes for confirming my findings on the action of PAS in rheumatoid arthritis. However, since the publication of my paper in 1952, research in the field of aetiology and treatment of arthritis has advanced enormously. It is now clear that there is not only a suggestion of an allergic arteritis, but evidence of concomitant lesion of *polyarteritis nodosa* in cases of arthritis examined *post mortem*. Reference is made to a paper published recently by John Ball in the *Annals of the Rheumatic Diseases*, December, 1954, page 277.

The research into the biochemical lesion of arthritis has led to the hypothetical conclusion that the condition may be due to a faulty metabolism on the level of acetylation, and blood coenzyme A levels have been investigated by me in six cases of rheumatoid arthritis and two cases of osteoarthritis. The results obtained have been the theme of my paper entitled "Preliminary Report on the Blood Coenzyme A Level in Arthritis", read at the clinical meeting of the British Medical Association in Adelaide on August 17, 1954. This paper has not been published for reasons unknown and independent of me. It has been found in the cases under examination that the coenzyme A blood level was considerably reduced in rheumatoid arthritis and to a lesser degree in osteoarthritis. Furthermore it has been found that not only coenzyme A blood levels were lower than normal, but that the action of PAS was conditioned by the ability of the organism to acetylate PAS. This has been confirmed recently by Bartolani in Italy.

Yours, etc., MICHEL BROU.

175 North Terrace,
Adelaide,
March 22, 1955.

SIR: May I be permitted to comment on the letter of Dr. Brian Haynes, "The Use of PAS in Rheumatoid Arthritis", in your journal of March 19, 1955?

It is unfortunate that Dr. Haynes has not told us what criteria he has adopted in diagnosing his 60 cases of rheumatoid arthritis. The true cases of this disease are relatively rare amongst the patients who present with rheumatic disease. To produce 60 cases of true rheumatoid arthritis requires the turnover of a very large clinic and the skill of very experienced observers. Furthermore, he has not attempted to describe any objective signs of improvement. Standards of observation vary so much that subjective signs are meaningless.

In the latest edition of "Comroe's Arthritis", edited by Joseph Hollander and collaborators, Howard C. Coggleshall lists 16 types of arthritis which may simulate rheumatoid

arthritis; this gives some idea of the difficulty of accurate diagnosis unless the observer has had the opportunity of seeing large numbers of patients whose diagnosis has been confirmed by other competent rheumatologists.

In 1945 the American Rheumatism Association appointed a committee to work out a standard classification of therapeutic criteria. This committee consisted of Otto Steinbrocker, M.D., Cornelius H. Traeger, M.D., and Robert C. Batterman, M.D., all of New York, all highly skilled in clinical rheumatology. These standards were adopted by the American Rheumatism Association and have now been recognized internationally as the Steinbrocker Classification. To have any observations recognized, it is necessary to conform to these standards both in the diagnosis and the therapeutic response to treatment.

I would be very interested to see Dr. Haynes evaluate his patients according to these standards over a period and give us a follow-up of the cases.

I personally gave this drug a very fair trial in 1952 and 1953, and could only agree with the skilled observers overseas that it had no specific rheumatic effect in rheumatoid arthritis, and only an analgesic effect in osteoarthritis, which is far the commonest type of rheumatic disease which we see in the rheumatology clinic of the Royal South Sydney Hospital with a turnover of 80 to 100 patients per week.

The diagnosis of rheumatoid arthritis in the State of New South Wales, with a few exceptions, is very vague compared with world standards. Until the people responsible for the care of these special groups recognize standard criteria of diagnosis and treatment, we shall not make much progress in this city.

I brought back from America copies of these criteria; I would be very pleased to give them to anyone interested. The reference is *The Journal of the American Medical Association*, June 5, 1949, page 659.

Yours, etc.,

M. NAOMI WING,
Honorary Assistant Rheumatologist,
Royal South Sydney Hospital.

235 Macquarie Street,
Sydney,
March 20, 1955.

COMMONWEALTH MEDICAL BENEFITS.

SIR: As a profession we must be prepared to resist any attempt to lower medical standards by governmental regulations. Such an attempt is evident in the recently amended schedule of Commonwealth medical benefits (January, 1955), wherein it is stated that to secure a rebate for the estimation of haemoglobin and for examination by microscope of a centrifuged urine sample, reference by another practitioner is required. In 1955 the use of a haemoglobinometer and a microscope for examination of centrifuged urine is not regarded as beyond the scope of a conscientious practitioner. In view of the inconvenience of referring the patient to a pathologist during working hours these tests may tend to be neglected and so lower the quality of diagnostic standards. The alternative is for the profession to provide this as another free service to those who cannot afford the extra charge. Either situation is undesirable, and it makes one wonder whether the profession was consulted on this matter.

Yours, etc., ZELMAN FREEMAN.

217 Macquarie Street,
Sydney,
March 8, 1955.

JAMES THOMAS RUDALL, F.R.C.S. (1828-1907): HIS LIFE AND JOURNAL FOR THE YEAR 1858.

SIR: I regret that when my review of J. T. Rudall's life and work (M. J. AUSTRALIA, December 25, 1954) was published, I was unaware of Darcy Williams's paper "Eyes, Surgeons and Sociality in Australia" (1947). In a very thorough study Mr. Williams integrates the progress of ophthalmology in Australia and elsewhere with the general history of Australian medicine, a project best undertaken by a specialist, and I am gratified that my own inexpert assessment of Rudall's ophthalmological work errs, if anything, on the side of caution. Mr. Williams describes him as "the father of ophthalmology in Australia" and quotes a reference to his "masterly performance of the cataract operation".

My observation that *Phœnix* and *Talbot* sailed "under command of Sir Edward Belcher" inadvertently conveys a wrong impression. Belcher had sailed two years earlier with the greater part of the expedition. A man "who made a 'hell-afloat' of every ship he ever commanded", he was regarded as "most unfit" for the task given him. He had just decided to abandon four of his five ships, and the expedition, and return home when the *Phœnix* and *Talbot* (under Captain E. A. Inglefield) arrived on the scene. For this decision he suffered a court martial, at the close of which his "sword was returned to him indeed, but in silence—a just rebuke" (Clowes, 1901).

London,
England,
March 11, 1955.

Yours, etc.,
BRYAN GANDEVIA.

References.

- WILLIAMS, D. (1947), "Eyes, Surgeons and Sociality in Australia", *Tr. Ophth. Soc. Australia*, 7: 5.
CLOWES, W. L. (1901), "The Royal Navy: A History", Volume VI, "Voyages and Discoveries, 1816-1856", by C. R. Markham.

THE DEFINITION OF A SPECIALIST.

SIR: It would appear that there is some difference of opinion about the definition of a "specialist" in an account of the meeting of the Federal Council, as reported in the journal of March 26, 1955, at page 447. A somewhat similar difficulty was considered by the Representative Body of the British Medical Association in England, as reported in the *Supplement to the British Medical Journal*, December 16, 1933, page 300, in connexion with the question of consultants. The Representative Body resolved that the criteria for a consultant should be:

- (i) That he has held hospital or other appointments affording special opportunities for acquiring special skill and experience of the kind required for the performance of the services rendered, and has had actual recent practice in performing the service rendered or services of similar character; or
- (ii) that he has had special academic or post-graduate study of a subject which comprises the services rendered, and has had actual recent practice as aforesaid; or
- (iii) that he is generally recognized among other practitioners in the area as having special proficiency and experience in the subject which comprises the service rendered.

If the Branches in Australia adopted a similar plan, the points raised by Dr. H. W. Horn and by Dr. A. E. Lee, in the discussion on fees paid to visiting medical officers of the Repatriation Department, would no longer apply. In addition, many causes for complaint would be obviated.

Brisbane,
March 26, 1955.

Yours, etc.,
E. S. MEYERS.

THE AUSTRALIAN RHEUMATISM COUNCIL.

SIR: In reply to Dr. Kelly (M. J. AUSTRALIA, March 19, 1955), the first communication received from Dr. R. T. Smith by the Secretary of the Australian Rheumatism Council arrived on February 15, 1955, and all particulars requested were forwarded to him a week later.

The present position of the Australian Rheumatism Council was fully discussed with Dr. Smith and also with the Secretary of the Empire Rheumatism Council (London) by Dr. Selwyn Nelson in November and December, 1954, on his recent visit to Philadelphia and London.

The present comparative inactivity of the Australian Rheumatism Council is due to difficulties which have been encountered in securing for the Council the necessary concession by the Commissioner of Taxation which will enable donations to the funds of the Council to be tax deductions. Without this concession it has been felt inadvisable to launch a large-scale appeal for funds which would enable the Council to carry on work similar to that done by the Empire Rheumatism Council and the American Arthritis and Rheumatism Foundation.

Dr. Kelly will realize that the American Rheumatism Association is a professional body, analogous to the Heberden Society in Great Britain, both of which function in associa-

tion with the corresponding philanthropic organizations mentioned above.

The decentralization by providing regional divisions of the Australian Rheumatism Council is the next logical step after the fund-raising potentialities of the Australian Rheumatism Council are placed on a firm foundation.

Yours, etc.,

S. A. SMITH,
Chairman, Australian Rheumatism
Council.

143 Macquarie Street,
Sydney,
March 26, 1955.

THE POST-GRADUATE EDUCATION OF THE PRACTISING DOCTOR.

SIR: Attention is drawn to the announcement in the journal by the Post-Graduate Committee in Medicine in the University of Sydney of the third conference on graduate and post-graduate medical education, which will be held in the Stawell Hall, 145 Macquarie Street, on the evening of Monday, May 23, 1955, at 8 p.m. The subject for discussion will be "The Post-Graduate Education of the Practising Doctor".

This conference will follow the pattern of the two previous conferences and will take the form of discussion by a panel representing the Post-Graduate Committee in Medicine, the University, the British Medical Association, the College of General Practitioners and the Federation of Country Local Associations, to be followed by general discussion in which any member of the audience may participate.

It is expected that the Committee will benefit by suggestions concerning the future development of training programmes for practising doctors in New South Wales.

Yours, etc.,

V. M. COPPLESON,
Honorary Director, Post-Graduate
Committee in Medicine in the
University of Sydney.

131 Macquarie Street,
Sydney,
March 31, 1955.

Obituary.

EDWARD LESLIE GAULT.

We have received from Dr. Leonard Mitchell the following appreciation of the late Dr. Edward Leslie Gault.

Edward Leslie Gault was born in Manchester in 1863. His parents brought the young family to Victoria in 1870 and settled in East Melbourne. He died in Melbourne on December 18, 1954, aged ninety-two years.

Edward Gault attended the old Model School in Spring Street, from which school he won a scholarship to Wesley College, and later one to the University of Melbourne, where he graduated M.A. in 1883. Thereafter, by teaching, he worked his way through the medical course, and graduated M.B., B.S. in 1890 and later M.S. in 1903. Proceeding to England, he went to London and worked at Moorfields Eye Hospital, where he was for a time on the resident staff. In 1896 he commenced general practice in Melbourne, specializing in eye, ear, nose and throat work, being one of the very earliest of men trained primarily for such work to practise in Melbourne. He built up a very large practice, and also served as honorary oculist to the Alfred Hospital for many years— influencing men like J. R. Anderson, who followed him there with distinction.

Having worked close alongside Gault in private practice for years, one got to know him as a great-hearted Christian gentleman as well as a distinguished and able practitioner. He was always generous to poorer patients, and he helped younger men in very practical fashion in their earlier struggles.

His generation in Melbourne—Barrett, Ryan, Webster and Kent-Hughes—built up the specialty, and in later years almost all gave up all practice but eye work, and set a high standard of practice and of professional conduct. Gault was outstanding as a diagnostician. His operating was good, and his results were extremely gratifying; this in pre-penicillin and antibiotic days implied extreme care in pre-

operative, operative and post-operative work; he always did his own post-operative dressings.

His teaching of students was well planned and effective, and laid part of the foundation of his State-wide practice.

Generations of practitioners and grateful patients remember his skill, his generous attention and his sunny personality.

He was a very prominent layman in the Methodist Church.

His son Edward and elder daughter Adelaide followed in his footsteps in medicine; Edward went to the mission field as surgeon and pathologist in Vellore, India, and now Dr. Adelaide carries on his practice in Melbourne.

History will show how well such pioneers in specialist practice built up this kind of practice, and we salute the life, work and memory of the last of these in Victoria—Edward Leslie Gault.

A member of his family writes: He started in general practice in Melbourne on returning from England, not from choice but from necessity. He had a duty to his family



who had worked while he studied, but he had held resident medical posts at the Melbourne and Alfred Hospitals and was strongly of the opinion that specializing should not be undertaken too soon and that a basis of general practice was good. He gradually built up his specialty until he was able to leave general practice, but he always kept in touch with general medicine through journals.

His interests were mainly those of the scholar. History, in which he had taken an honours arts course, was one of his favourite subjects for reading, and he built up a good historical library. He was also very fond of English literature, especially essays and poetry, and enjoyed repeating many of his favourite poems when sight and hearing failed.

He was a great lover of Nature and found his greatest pleasure from long walks in the country—camping, fishing and canoeing. He loved a beautiful garden, but preferred planning it to working in it, although he started a Dupuytren's contracture with digging a rose garden. He liked to walk and read in the garden and smoke his fragrant cigars under the oak trees, and he enjoyed the arrangement of the flowers in the house or the wearing of a beautiful rosebud in his buttonhole. He toyed with agri-

culture, and we had a miniature farm in Auburn, including horses (he rode to the Alfred Hospital and would occasionally come home by tram; the resident would ring to say that he had left his horse behind). He grew oats for the horses, and we had an annual holiday from school when harvesting was on. He also dabbled in pigs and cows, all in a most uneconomical manner.

The sports that interested him most were tennis (he liked, if possible, to have a grass court, and was a foundation member of the Lawn Tennis Association of Victoria) and athletics (he was a champion mile walker). He loved music, both in the home and from the concert platform, and had quite a pleasant baritone voice. Latterly, poor hearing disturbed the upper range of notes and spoilt it for him. He would steal away from his patients, having put drops in their eyes, to visit an exhibition of paintings. He knew the Melbourne National Gallery well and brought us up on good pictures, so that when we travelled we recognized them from the Royal Academy and other albums of our childhood. He was interested in education—from the early kindergarten experiments to the development of the great public schools and their self-government through prefects, form captains *et cetera*. He was on the council of Wesley College, the Methodist Ladies' College and Queen's College. He was a close observer of all the great movements of his time—always with a liberal, elastic mind.

His teaching work at the Alfred Hospital was a great delight to him and was not carried on to increase his practice, but rather to make people's eyes safe in the hands of the general practitioner and to encourage others to enter the specialty. During the last war he undertook a colossal amount of extra work when well over eighty years of age, returning in a subsidiary position to his old clinic at the Alfred Hospital, examining troops at Royal Park, treating eye patients at the Austin Hospital, and running two practices; this involved fortnightly visits to Shepparton. He did all this without a motor-car and when living in an outlying suburb of Melbourne.

His Christian philosophy enabled him to accept the disabilities and deprivations of old age with cheerful equanimity, and his charming Irish humour never left him, so that it was a delight to look after him. He was joking with his grandsons and their friends on the night of his death, and his funeral was a very cheerful affair, as he would have wished.

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

Post-Graduate Education of the Practising Doctor.

THE Post-Graduate Committee in Medicine in the University of Sydney announces that it proposes to hold the third conference on graduate and post-graduate medical education in the Stawell Hall, 145 Macquarie Street, Sydney, at 8 p.m., on Monday, May 23, 1955.

The subject of this conference will be "Post-Graduate Education of the Practising Doctor".

Persons wishing to attend the conference should communicate as soon as possible with the Post-Graduate Committee in Medicine, University of Sydney, 131 Macquarie Street, Sydney (BU 4497).

THE MELBOURNE MEDICAL POST-GRADUATE COMMITTEE.

PROGRAMME FOR MAY, 1955.

Course in Radiodiagnosis.

THE Melbourne Medical Post-Graduate Committee, in consultation with the College of Radiologists of Australasia, will conduct a series of lectures in radiodiagnosis suitable for candidates for Part II of the D.D.R. and D.C.R.A. These will commence on May 9 and continue at 4.30 p.m. on Mondays and Thursdays till July 25. The fee for this course is £15 15s., and enrolments should be made with the Post-Graduate Committee as soon as possible.

Ear, Nose and Throat Course.

The Ear, Nose and Throat Section of the British Medical Association (Victorian Branch) will conduct a course in oto-rhino-laryngology, suitable for candidates for Part II of the D.L.O. This will commence on Tuesday, May 3, at 5 p.m., and continue till August, chiefly on two late afternoons a week. The fee for this course is £21, and enrolments should be made through the Melbourne Medical Post-Graduate Committee as soon as possible.

Part I of Higher Qualifications.

Classes for candidates for Part I of higher qualifications, which commenced at the University in February and March, will continue in May. It is expected that a short course in optics for D.O. Part I candidates will commence that month. Other courses for Part I and Part II D.O. candidates will continue.

Country Courses.*Bendigo.*

On Friday, May 20, at 8 p.m., at the Base Hospital, Bendigo, Dr. L. Hurley will speak on "Disseminated Lupus Erythematosus and Allied Disorders".

Camperdown.

On Saturday, May 21, at Camperdown, the following lectures will be given: 4 p.m., Dr. Ivan Maxwell, "Recent Advances in Chemotherapy"; 8 p.m., Dr. Ian Wood, "Jaundice".

Ballarat.

On Thursday, May 26, at 8 p.m., at Craig's Hotel, Ballarat, Dr. R. M. Rome will speak on "Diabetes and Hypertension in Pregnancy".

Fee.

The fee for each of these lectures is 15s., but those who have paid an annual subscription to the committee are invited to attend without further charge.

Flinders Naval Depot.

At 2.30 p.m. on May 11, at Flinders Naval Depot, Dr. Ian Stahle will speak on "Principles and Management of Common Dermatoses". This is by arrangement with the Royal Australian Navy.

Inquiries.

Inquiries regarding all courses mentioned above should be addressed to the Melbourne Medical Post-Graduate Committee, 394 Albert Street, East Melbourne, C.2 (telephone: FB 2547).

Naval, Military and Air Force.**APPOINTMENTS.**

THE undermentioned appointments, changes et cetera have been promulgated in the *Commonwealth of Australia Gazette*, Number 9, of February 24, 1955.

**PERMANENT NAVAL FORCES OF THE COMMONWEALTH
(SEA-GOING FORCES).**

Promotion.—Surgeon Captain Lionel Lockwood, M.V.O., D.S.C., is promoted to the rank of Surgeon Rear-Admiral, dated 26th April, 1955.

Transfer to the Retired List.—Surgeon Rear-Admiral Denis Adrian Pritchard, C.B.E., is transferred to the Retired List, dated 26th April, 1955.—(Ex. Min. No. 8—Approved 15th February, 1955.)

AUSTRALIAN MILITARY FORCES.**Australian Regular Army.****Royal Australian Army Medical Corps.**

2/40146 Captain F. J. Buchhorn is transferred to the Reserve of Officers (Royal Australian Army Medical Corps (Medical)) (2nd Military District), 1st January, 1955.

The Short Service Commission granted to 1/8053 Captain (Temporary Major) A. J. Splatt is extended until 16th January, 1955.

1/8053 Captain A. J. Splatt relinquishes the temporary rank of Major and is transferred to the Reserve of Officers (Royal Australian Army Medical Corps (Medical)) (1st Military District), 17th January, 1955.

Citizen Military Forces.*Northern Command: First Military District.*

Royal Australian Army Medical Corps (Medical).—The provisional rank of 1/62653 Captain W. E. McGovern is confirmed. 1/62653 Captain W. E. McGovern is transferred to the Reserve of Officers (Royal Australian Army Medical Corps (Medical)) (1st Military District), 11th November, 1954. 1/39085 Honorary Captain G. C. T. Kenny is appointed from the Reserve of Officers, and to be Captain (provisionally), 31st December, 1954. To be Captain (provisionally), 31st December, 1954: 1/61844 Alan Davison.

1/39153 Captain (provisionally) T. M. Ferrier relinquishes the provisional rank of Captain and is transferred to the Reserve of Officers (Royal Australian Army Medical Corps (Medical)) (1st Military District) in the honorary rank of Captain, 16th December, 1952.

Eastern Command: Second Military District.

Royal Australian Army Medical Corps (Medical).—2/130113 Honorary Captain E. A. Lennon is appointed from the Reserve of Officers, and to be Captain (provisionally), 19th November, 1954. The provisional appointment of 2/206958 Captain W. R. M. Shaw is terminated, 3rd December, 1954. To be Captain (provisionally), 4th December, 1954: 2/206958 William Robert Morgan Shaw.

Southern Command: Third Military District.

Royal Australian Army Medical Corps (Medical).—3/107706 Honorary Captain M. Drake is appointed from the Reserve of Officers, and to be Captain (provisionally), 6th December, 1954. To be Major, 7th January, 1955: 3/92021 Captain W. Rosenthal.

Royal Australian Army Medical Corps (Medical).—8/129123 Colonel R. S. Smibert, O.B.E., E.D., relinquishes the appointment of Assistant Director of Medical Services, Headquarters 3rd Division, 10th January, 1955, and is transferred to the Reserve of Officers (Royal Australian Army Medical Corps (Medical)) (3rd Military District), 11th January, 1955.

Tasmania Command: Sixth Military District.

Royal Australian Army Medical Corps (Medical).—The provisional rank of 6/15312 Major N. D. G. Abbott is confirmed.

Reserve Citizen Military Forces.*Royal Australian Army Medical Corps.*

2nd Military District.—To be Honorary Captains, 31st December, 1954: James Arthur Harold Price and David Amor Harvey Grieve.

The notification respecting Lieutenant-Colonel N. W. Francis which appeared in Executive Minute No. 148 of 1954, promulgated in *Commonwealth Gazette* No. 51 of 1954, is withdrawn.

3rd Military District.—To be Honorary Captain, 1st December, 1954: John William McKenzie Upjohn.—(Ex. Min. No. 27—Approved 16th February, 1955.)

The following officers are retired: Honorary Captains J. N. Story, 6th January, 1955, and A. G. Murray, 4th January, 1955. To be Honorary Captains: John Hartley Williams, 11th October, 1954; Alan Morton Cuthbertson, 1st November, 1954, and Ian Ewart Backwell and John Paterson Asche, 8th November, 1954.

5th Military District.—To be Honorary Captain, 5th January, 1955: John Gouldhawk Golledge.

ROYAL AUSTRALIAN AIR FORCE.*Permanent Air Force: Medical Branch.*

James Frederick Anthony Gaudry (0216890) is appointed to a short-service commission, on probation for a period of twelve months, 10th January, 1955, with the rank of Flight Lieutenant.

Air Force Reserve: Medical Branch.

The following former officers are appointed to a commission with the rank of Flight Lieutenant: A. D. F. Gillespie (443769), 1st September, 1954; W. T. Lesslie (267619), 17th October, 1954; L. E. Buley (400036), 29th October, 1954.

The following are appointed to a commission with rank as indicated: (Flight Lieutenant (Temporary Squadron Leader)) Norman Yates McCallum (277624), 17th July, 1954; (Flight Lieutenant) William Maurice McCubbery (257918), John Bevan Webb (257917), Daniel Lenaghan (257916), 30th July, 1954; William Anthony Saw (268036), 1st September, 1954; Walter Henry Koschade (257915), 8th September, 1954.

A34706 Air Cadet Blair Henry Francis Malcolm (034706) is appointed to a commission, 29th November, 1954, with the rank of Flight Lieutenant.

A4761 Air Cadet Curtis George Deland (04761) is provisionally appointed to a commission, 6th November, 1954, with the rank of Pilot Officer.

Flying Officer (Temporary Flight Lieutenant) E. L. Fleming (430651) is transferred from the General Duties Branch, 24th September, 1954, with the rank of Flight Lieutenant.

Flight Lieutenant J. A. Snell (257806) is promoted to the temporary rank of Squadron Leader, 9th November, 1954.

The appointment of Flight Lieutenant T. D. Bourke (051338) is terminated, 8th October, 1954.—(Ex. Min. No. 15—Approved 15th February, 1955.)

The following former officer is appointed to a commission, 11th November, 1954, with the rank of Flight Lieutenant: F. O. P. Pearce (039510).

Australian Medical Board Proceedings.

NEW SOUTH WALES.

The following additions and amendments have been made to the Register of Medical Practitioners for New South Wales in accordance with the *Medical Practitioners Act*, 1938-1953:

Registered medical practitioner who is required to complete twelve months' hospital service in accordance with the provisions of Section 17 (3) of the Act: Cave, Mary Neila, M.B., B.S., 1955 (Univ. Sydney).

Registered medical practitioners who have complied with the requirements of Section 17 (3) of the Act: York, Neville George, M.B., B.S., 1952 (Univ. Melbourne); Dexter, Fred, L.M.M.S.A. (Univ. London), 1946; Macnamara, Michael, M.B., B.Ch., 1949 (Univ. Dublin); L.A.H. (Dublin), 1949; Ogden, John Kenworthy, M.R.C.S. (England), 1943, L.R.C.P. (London), 1943, M.R.C.O.G., 1951.

The following additional qualifications have been registered: Diethelm, Anton Emil, M.B., B.S., 1941 (Univ. Sydney), D.D.R., 1949 (Univ. Sydney), M.C.R.A., 1955; Wilkinson, Thomas, M.B., 1950 (Univ. Sydney), D.C.P., 1952 (Univ. Sydney), B.S., 1955 (Univ. Sydney).

QUEENSLAND.

The following have been registered, pursuant to the provisions of *The Medical Acts*, 1939-1948, as duly qualified medical practitioners: Ross, Thomas Sydney, M.B., B.S., 1953 (Univ. Sydney); Wilson, David Thomas, M.B., B.S., 1955 (Univ. Queensland); McLeilan, Kenneth Gregory Grant, M.B., B.S., 1955 (Univ. Queensland); Heiner, Maurice Henry Charles, M.B., B.S., 1955 (Univ. Queensland); Irvine-Brown, Malcolm, M.B., B.S., 1955 (Univ. Queensland); Morahan, Ronald Joseph, M.B., B.S., 1955 (Univ. Queensland); Shepley, Arthur, M.B., B.S., 1955 (Univ. Queensland); Johnston, Noel Graham, M.B., B.S., 1955 (Univ. Queensland); Waddell, John James, M.B., B.S., 1955 (Univ. Queensland); Appleby, Bruce Robert, M.B., B.S., 1954 (Univ. Sydney); Elkington, Edward James, M.B., B.Ch., 1951 (Univ. Oxford); Morris, Marion Erica, M.B., B.S., 1950 (Univ. Sydney).

TASMANIA.

The following have been registered, pursuant to the provisions of the *Medical Act*, 1918, as duly qualified medical practitioners: Paterson, Norman Ray, M.B., 1921 (Univ. Sydney); Cam, Donald Edmund, M.B., B.S., 1953 (Univ. Sydney); Allman, John Gordon, M.B., B.S., 1954 (Univ. Sydney); Broughton, Peter William Stafford, M.B., B.S., 1954 (Univ. Sydney); Dargaville, Donald Keith, M.B., B.S., 1954 (Univ. Melbourne); Hansman, David John, M.B., B.S., 1953 (Univ. Sydney); Howsam, Geoffrey Noel, M.B., B.S., 1954 (Univ. Melbourne); Jago, Lloyd Cornwall, M.B., B.S., 1954 (Univ. Melbourne); Mulcahy, Maxwell Leslie, M.B., B.S., 1954 (Univ. Melbourne); Newlands, John Stuart, M.B., B.S., 1954 (Univ. Sydney); Smith, Robert Gordon, M.B., B.S., 1954 (Univ. Sydney).

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED MARCH 26, 1955.¹

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism	2	1(1)	6(4)						9
Amobiasis			1				1		2
Ancylostomiasis									
Anthrax									
Bilharziasis									
Brucellosis									
Cholera									
Chorea (St. Vitus)	2(2)								2
Dengue									
Diarrhoea (Infantile)	9(8)	25(21)	4(4)						38
Diphtheria	5(1)	2(2)		4	6(6)	1			18
Dysentery (Bacillary)		4(4)	10(5)		1				15
Encephalitis		1(1)							1
Filariasis									
Homologous Serum Jaundice									
Hydatid									
Infective Hepatitis	41(22)	57(46)		6(4)	1				104
Lead Poisoning									
Leprosy									
Leptospirosis									
Malaria									
Meningococcal Infection			1						1
Ophthalmia									
Ornithosis									
Paratyphoid									
Plague									
Poliomyelitis	10(3)	8(5)	6(1)	8(1)					33
Puerperal Fever	1(1)								1
Rubella		9(7)		2	1				12
Salmonella Infection									
Scarlet Fever	3(3)	30(16)	5	6(3)	2				46
Smallpox									
Tetanus									
Trachoma									
Trichinosis									
Tuberculosis									
Typhoid Fever	41(31)	16(12)	12(4)	4(3)	9(7)	6(3)	1		88
Typhus (Flea-, Mite- and Tick-borne)	2(2)								3
Typhus (Louse-borne)									
Yellow Fever									

¹ Figures in parentheses are those for the metropolitan area.

B.S., 1953 (Univ. Sydney); Sweetapple, William Edmund, M.B., B.S., 1954 (Univ. Sydney); Adrian, Paul Zoltan Vazashelyi, M.B., B.S., 1954 (Univ. Melbourne); Bray, Henry Michael, M.B., B.S., 1948 (Univ. Melbourne); Broderick, Frances Laurence, M.B., B.S., 1954 (Univ. Melbourne); Frith, Mary Eileen, M.B., B.S. (Univ. Sydney); Hartley, Bryan, L.R.C.P., M.R.C.S., 1950; Linigar, Valerie June, M.B., B.S., 1954 (Univ. Sydney); MacCallum, Robert Humphrey Gilbert, M.B., B.S., 1954 (Univ. Melbourne); McDonald, Anthony John, M.B., B.S., 1954 (Univ. Sydney); Pointon, Clive George, M.B., B.S., 1954 (Univ. Melbourne); Thurin, Eric, M.B., B.S., 1954 (Univ. Melbourne); Vidor, George Ivan, M.B., B.S., 1953 (Univ. Sydney); Cantor, Stanley Jacob, M.B., B.S., D.P.M., 1959 (Univ. Melbourne); Messmer, Bruce Anthony, M.B., B.S., 1951 (Univ. Sydney); Tonkin, Aubrey Douglas, M.B., B.S., 1951 (Univ. Adelaide).

The following additional qualifications have been registered: Craig, Clifford, Diploma in Radiology (Univ. Melbourne), 1954; Hiller, Berthold, D.L.O. (R.C.S. and R.C.P.), 1930; Nathan, David Bertram, M.R.C.P. (Edinburgh), 1950.

Dominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Goldstein, Bronisława, registered in accordance with the provisions of Section 17 (1) (c) of the *Medical Practitioners Act, 1938-1953*, Flat 9, 165 Victoria Road, Bellevue Hill, New South Wales.

Fisher, Roderick William, M.B., B.S., 1952 (Univ. Sydney), Railway Crescent, Jamnali, New South Wales.

Halliday, Edward James, M.B., B.S., 1944 (Univ. Sydney), 143 Macquarie Street, Sydney.

The undermentioned have been elected as members of the New South Wales Branch of the British Medical Association: Cooper, Bryan Paul, M.B., B.S., 1955 (Univ. Sydney); Fisher, Frank, M.B., B.S., 1955 (Univ. Sydney); Hughes, Peter Dalton, M.B., B.S., 1955 (Univ. Sydney); Jeremy, David, M.B., B.S., 1955 (Univ. Sydney); Korten, Susanne, M.B., B.S., 1955 (Univ. Sydney); Mooy, Antony, M.B., B.S., 1955 (Univ. Sydney); Muston, Jacqueline April, M.B., B.S., 1955 (Univ. Sydney); Tooth, Richard Murray, M.B., B.S., 1955 (Univ. Sydney); Hehir, John Desmond, M.B., B.S., 1954 (Univ. Sydney); Merrifield, Alan John, M.B., B.S., 1954 (Univ. Sydney); Bennett, Michael Francis (Surgeon Lieutenant), M.B., B.Ch., 1952 (National Univ. Ireland); Smith, Herbert Saviour, M.B., Ch.B., 1952 (Univ. Bristol); Taylor, Neville, M.B., B.S., 1953 (Univ. Sydney); Jelikovsky, Tatjana, M.B., B.S., 1953 (Univ. Hong Kong); Rosenberg, Samuel, registered in accordance with the provisions of Section 17 (1) (c) of the *Medical Practitioners Act, 1938-1953*.

Medical Appointments.

Dr. Irene May O'Loughlin has been appointed clinical pathologist in the Institute of Medical and Veterinary Science, Adelaide.

Dr. R. R. Horton has been appointed poliomyelitis medical officer in the Public Health Department of South Australia.

Dr. C. W. Uhr has been appointed a member of the Medical Board of Queensland.

The following have been appointed as members of the Advisory Committee for the purposes of the *Pure Food Act, 1908*, of New South Wales: Dr. H. G. Wallace (Chairman), Dr. C. J. Cummins, Dr. J. J. Donnellan and Dr. H. W. T. Chenhall.

Dr. P. R. Patrick has been appointed a member of the Board of Optical Registration of Queensland.

Dr. J. M. Morris has been appointed medical officer at the Brisbane Mental Hospital, Goodna, Queensland.

Dr. W. A. J. Brady has been appointed deputy superintendent of the Mental Hospital, Kew, Victoria.

Dr. G. L. Christie has been appointed senior medical officer, Mental Hygiene Branch, Department of Health, Victoria.

Dr. C. M. Gurner has been appointed honorary senior assistant radiotherapist in the Royal Adelaide Hospital.

Notice.

THE DIABETIC ASSOCIATION OF AUSTRALIA.

Lecture on Insulin.

On Monday, May 9, 1955, at 8 p.m., in the lower Town Hall, Sydney, Dr. F. Ray Hone, of Adelaide, will deliver a public lecture on "Cases That Need Insulin and Those That Do Not: Advantages and Disadvantages". The lecture has been arranged by the Diabetic Association of Australia. It will be illustrated by lantern slides. Attention is drawn to the fact that the lecture will be held in the lower Town Hall, and not at Federation House, Phillip Street, as previously announced.

Diary for the Month.

- APRIL 18.—Victorian Branch, B.M.A.: Finance Subcommittee.
 APRIL 19.—New South Wales Branch, B.M.A.: Medical Politics Committee.
 APRIL 20.—Western Australian Branch, B.M.A.: General Meeting.
 APRIL 21.—Victorian Branch, B.M.A.: Executive of Branch Council.
 APRIL 21.—New South Wales Branch, B.M.A.: Clinical Meeting.
 APRIL 26.—New South Wales Branch, B.M.A.: Ethics Committee.
 APRIL 27.—Victorian Branch, B.M.A.: Branch Council.
 APRIL 28.—South Australian Branch, B.M.A.: Scientific Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

Queensland Branch (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205 Saint George's Terrace, Perth): Norseman Hospital: all contract practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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